SAN JOAQUIN VALLEY
AIR POLLUTION CONTROL DISTRICT

Equilon Enterprises, LLC.
(Petroleum Refinery – Area 3)
(S-34)

FINAL ENGINEERING EVALUATION

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Title V Application Review
Petroleum Refinery

Project: 970662
Date Deemed Complete: May 14, 1997

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PROPOSAL

Equilon Enterprises, LLC, is proposing that the initial Title V Operating Permit be issued for its existing petroleum refinery facility in Bakersfield, Kern County, CA. The purpose of this engineering evaluation is to identify all applicable requirements, determine if the facility will comply with those applicable requirements, and to provide the legal and factual basis for proposed permit conditions.

FACILITY LOCATION

Equilon Enterprises, LLC, is located at 3663 Gibson St (Area 3) in Bakersfield, California. The facility is located in the geographic Sec. 23, T29S, R27E, in Kern County.

FACILITY WIDE REQUIREMENTS

I. EQUIPMENT DETAIL

The requirements addressed under this Facility Wide Requirements section are applicable to the facility as a whole. The stationary source shall comply with all requirements specified on the Facility Wide Requirements permit unit S-34-0-1.

II. GENERAL PERMIT TEMPLATE USAGE

The applicant has not requested to utilize any model general permit templates. Therefore, the proposed permit in its entirety is subject to EPA and public review.

III. SCOPE OF EPA AND PUBLIC REVIEW

The applicant has not proposed to utilize any model general permit templates. All applicable requirements are explicitly addressed in the permit outside of the general permit templates.

IV. APPLICABLE REQUIREMENTS ADDRESSED BY GENERAL PERMIT TEMPLATES

The applicant has not proposed to utilize any model general permit templates. All applicable requirements are explicitly addressed in the permit outside of the general permit templates.

V. APPLICABLE REQUIREMENTS NOT ADDRESSED BY GENERAL PERMIT TEMPLATES

District Rule 2201	District New And Modified Stationary Source Review Rule
District Rule 1100	Equipment Breakdown (Amended December 17, 1992) (Non Sip Replacement For Kern County Rule 111)
District Rule 1160	Emission Statements (Adopted November 18, 1992)
District Rule 2010	Permits Required (Amended December 17, 1992)
District Rule 2020	Exemptions (Amended March 21, 2002) (Non SIP replacement for Kern County Rule 202)
District Rule 2031	Transfer of Permits (Amended December 17, 1992)
District Rule 2040	Applications (Amended December 17, 1992)
District Rule 2070	Standards for Granting Applications (Amended December

17, 1992)

District Rule 2080	Conditional Approval (Amended December 17, 1992)
District Rule 2520	Federally Mandated Operating Permits - except section 9.4.2 (Amended June 21, 2001)
District Rule 4101	Visible Emissions (Amended December 17, 1992) (Non SIP replacement for Kern County Rule 401)
District Rule 4601	Architectural Coatings (Amended December 17, 1992)
District Rule 8021	Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities (Adopted November 15, 2001)
District Rule 8031	Bulk Materials (Adopted November 15, 2001)
District Rule 8051	Fugitive Dust Requirements for Control of Fine Particulate Matter from Paved and Unpaved Roads (Amended November 15, 2001)
District Rule 8061	Paved and Unpaved Roads (Adopted November 15, 2001)
40 CFR Part 61 Subpart M	National Emission Standard for Asbestos
40 CFR Part 82 Subpart F	Stratospheric Ozone
40 CFR Part 68	Chemical Accident Prevention Provisions
40 CFR Part 63	National Emission Standard for Hazardous Air Pollutants

VI. REQUIREMENTS NOT FEDERALLY ENFORCEABLE

For each Title V source, the District issues a single permit that contains the Federally Enforceable requirements, as well as the District-only requirements. The District-only requirements are not a part of the Title V Operating Permits. The terms and conditions that are part of the facility's Title V permit are designated as Federally Enforceable Through Title V Permit. This facility is subject to the following rules that are not currently federally enforceable:

District Rule 4102 - Nuisance (Amended December 17, 1992)

For this facility, condition 40 of the requirements for permit unit S-34-0-1.

VII. COMPLIANCE

A. Requirements Addressed by Model General Permit Templates

1. Facility Wide Requirements

The applicant is not proposing to use a general permit template for this category. Compliance with all federally applicable requirements will be addressed in the following Section of this engineering evaluation.

B. Requirements Not Addressed by Model General Permit Templates

1. New and Modified Stationary Source Review Rule

a. Facility Wide Requirements (S-34-0-1)

The facility wide requirements permit contains condition that is applicable to the facility as a whole. Current condition on the permit is addressed as following:

- Condition 1 of the PTO has been included as condition 40 of the requirements for this permit unit.
- Conditions 2, and 3 of the PTO have been included as conditions 45 and 46.

2. District Rule 1100

Sections 6.0 and 7.0 prescribe breakdown procedures and reporting requirements. These requirements are addressed by template permit conditions #1, #2 and #11. District Rule 1100 has been submitted to the EPA to replace each of the following county rules in the SIP: 111 (Kern). District Rule 1100 is at least as stringent as the county SIP rules addressing breakdowns, as shown in Table 2.

The applicant is requesting a permit shield from the requirements of 111 (Kern). See permit shield condition #39.

Table 2. Comparison of District Rule 1100 to County Rule

REQUIREMENTS	Rule 111 (Kern)
A breakdown occurrence must be reported as soon as reasonably possible but no later than 1 hour after detection.	**X (Kern allows 2 hrs)**
A variance must be obtained if the occurrence will last longer than a production run or 24 hours, whichever is shorter (96 hours for CEM systems).	**X**
A report must be submitted to the APCO within 10 days of the correction of the breakdown occurrence which includes:	**X**
1) A statement that the breakdown condition has been corrected, together with the date of correction and proof of compliance.	**X**
2) A specific statement of the reason(s) or cause(s) for the occurrence sufficient to enable the APCO to determine whether the occurrence was a breakdown condition.	**X**
3) A description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future.	**X**
4) Pictures of the equipment or controls which failed if available.	**X**

3. District Rule 1160

Section 5.0 requires the owner or operator of any stationary source to provide the District with a written emissions statement showing actual emissions of reactive organic gases (ROGs) and nitrogen oxides (NOx) from that source. The District waives this requirement for sources emitting less than 25 tons per year of these pollutants if the District provides the Air Resources Board (ARB) with an emissions inventory of sources emitting greater than 10 tons per year of NOx or ROGs based on the use of emission factors acceptable to the ARB. See permit condition #3.

4. District Rules 2010 and 2020

District Rule 2010 sections 3.0 and 4.0 require any person building, modifying or replacing any operation that may cause the issuance of air

contaminants to apply for an Authority to Construct (ATC) from the District in advance. The ATC will remain in effect until the Permit to Operate (PTO) is granted. These requirements are stated in template permit condition #4.

District Rule 2020 lists equipment which are specifically exempt from obtaining permits and specifies recordkeeping requirements to verify such exemptions. These requirements are stated in template permit condition #4.

Table 3. Comparison of District Rule 2020 (9/17/98) to Rule 2020 (3/21/02)

REQUIREMENTS	District Rule 2020 (9/17/98)	District Rule 2020 (3/21/02)
An ATC or PTO is not required for listed exempt equipment.	X	X
Conditions are stated under which listed exempt equipment will require an ATC or PTO.	X	X
Record keeping is required to verify and maintain exemption, when the exemption is based on a maximum daily limitation.	X	X
A compliance schedule is stated for equipment which loses exemption from permitting, necessitating submission of a PTO application.	X	X

5. District Rules 2031, 2070 and 2080

These rules set forth requirements to comply with all conditions of the Permit to Operate. Permits to Operate or Authorities to Construct are not transferable unless a new application is filed with and approved by the District. All source operations must be constructed and operated as specified in the Authority to Construct. See permit conditions #5 and #6.

6. District Rule 2040

Section 3.0 requires that every application for a permit shall be filed in a manner and form prescribed by the District. See permit condition #7.

7. District Rule 2520

Section 5.2 requires permittees submit applications for Title V permit renewal at least six months prior to permit expiration. Permit condition #34 assures compliance with this requirement.

Section 9.0 of District Rule 2520 requires certain elements to be contained in each Title V permit:

Section 9.1.1 of District Rule 2520 requires all conditions on Title V permits specify a reference of the origin of an authority for each term or condition, and identify any difference in form as compared to the applicable requirements upon which the term or condition is based.

Section 9.4 contains requirements to incorporate all applicable recordkeeping requirements into the Title V permit. This section also specifies records of any required monitoring and support data be kept for a period of five years. The requirements to keep specific monitoring records and retain records for five years are stated in template permit conditions #8 and #9, respectively.

Section 9.5 requires the submittal of monitoring reports at least every six months. Prompt reporting of deviations from permitting requirements, including those attributable to upset conditions is also required. The responsible official must certify all required reports. These requirements are stated in template permit conditions #10 and #11.

Section 9.7 states that the Title V permit must also contain a severability clause in case of a court challenge; the severability clause is stated in template permit condition # 12.

Section 9.8 contains requirements for provisions in the Title V permit stating 1) the permittee must comply with all permit conditions; 2) the permitted activity should not be reduced in order to comply with the permit conditions. Further, this reasoning shall not be used as a defense in an enforcement action, 3) the permit may be revoked, modified, reissued, or reopened for cause, 4) the Title V permit does not reflect any property rights, and 5) the permittee will furnish the District with any requested information to determine compliance with the conditions of the Title V permit. Compliance with these sections of Rule 2520 will be assured by permit conditions #5 and #13 - #16.

Section 9.9 requires the permit specify that the permittee pay annual permit fees and applicable fees from District Rules 3010, 3030, 3050, 3080, 3090, 3110, and 3120. This requirement is stated in template condition #17.

Section 9.13.1 requires any report or document submitted under a permit requirement or a request for information by the District or EPA contain a certification by a responsible official as to truth, accuracy, and completeness. Compliance with this section will be assured by permit condition #26.

Section 9.13.2 contains inspection and entry requirements that allows an authorized representative of the District to enter a permittee's premises to inspect equipment, operations, work practices, permits on file, and to sample substances or monitor parameters for the purpose of assuring compliance with the permit requirements. Compliance with this section will be assured by permit conditions #18, #19, #20 and #21.

Section 9.16 requires that the permittee submit certification of compliance with the terms and standards of Title V permits to the EPA and the District annually (or more frequently as required by the applicable requirement or the District). Condition #35 assures compliance with this requirement.

Section 10.0 requires any application form, report, or compliance certification submitted pursuant to these regulations shall contain certification of truth, accuracy and completeness by a responsible official. Compliance with this section will be assured by permit condition #26.

8. District Rule 4101

District Rule 4101 has been submitted to the EPA to replace SIP approved Rule 401 (all counties of the SJVUAPCD). EPA made a preliminary determination that District Rule 4101 is "more stringent" than the county versions previously referenced, per correspondence dated August 20, 1996.

Section 5.0 prohibits the discharge of any air contaminant for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart; or is of such opacity as to obscure an observer's view to a degree equal to or greater than the smoke described in Section 5.1 of Rule 4101. This requirement is stated in facility-wide template permit condition #22.

9. District Rule 4601

This rule limits the emissions of VOCs from architectural coatings. It requires limiting the application of any architectural coating to no more than what is listed in the Table of Standards (Section 5.0). This rule further specifies labeling requirements, coatings thinning recommendations and storage requirements. See conditions #23, #24 and #25.

The current rule differs significantly from the previously SIP approved 9/17/97 version. The tables outlining the VOC content of different specialty coatings has been largely replaced with the Table of Standards in Section 5.0. New labeling, reporting, test methodology and other

requirements have been incorporated into the rule in order to allow ARB to administer the Averaging Program as detailed in Section 8.0.

10. District Rule 4002 - National Emissions Standards for Asbestos - 40 CFR Part 61.145, 61.150

The maximum achievable control technology (MACT) standard for petroleum refineries stems from the Clean Air Act Amendments of 1990. Under the Act, emissions of 189 hazardous air pollutants (HAPs), also known as air toxics, must be regulated. Refineries that are major HAP sources with a potential to emit $\geq$ 10 tons per year (tpy) of any of the 189 HAPs or potential to emit $\geq$ 25 tpy of total HAPs need to comply with the requirements of the MACT standard.

Equilon Enterprises, LLC does not have the potential to emit either 10 tpy of any of the 189 HAPs or 25 tpy of total HAPs and therefore is not subject to the requirements of the Petroleum Refinery MACT Standard.

11. Title VI of the CAA - Stratospheric Ozone

There are applicable requirements from Title VI of the CAA (Stratospheric Ozone) that apply to all sources in general. These requirements pertain to air conditioners, chillers and refrigerators located at a Title V source and to disposal of air conditioners or maintenance/recharging/disposal of motor vehicle air conditioners (MVAC). These requirements are addressed in template permit conditions # 27 and #28.

12. SJVUAPCD Regulation VIII - Fugitive Dust (PM10)

These regulations contain requirements for the control of fugitive dust. These requirements apply to various sources, including construction, demolition, excavation, extraction, mining activities, outdoor storage piles, paved and unpaved roads. Compliance with these regulations will be required by permit conditions #29 through #34.

13. 40 CFR Part 68, Chemical Accident Prevention Provisions

The requirements of this provision mandate that subject facilities submit a Risk Management Plan to the proper authority.

Condition 44 of the requirements for this permit unit assures compliance with this rule.

14. 40 CFR Part 61 - Subpart FF - National Emission Standard for Benzene Waste Operations

The provisions of this subpart apply to owners and operators of chemical manufacturing plants, coke by-product recovery plants, and petroleum refineries.

Condition 43 of the requirements for this permit unit assures compliance with this rule.

VIII. PERMIT SHIELDS

A permit shield legally protects a facility from enforcement of the shielded regulations when a source is in compliance with the terms and conditions of the Title V permit. Compliance with the terms and conditions of the Title V permit is considered compliance with all applicable requirements upon which those conditions are based.

District Rule 1100, 6.1 and 7.0
Compliance with these requirements were addressed in Section IV of this document, and are assured by conditions #1 and #2. Therefore, a permit shield is being granted for these requirements in condition #41.

District Rule 2010, 3.0 and 4.0
Compliance with these requirements were addressed in Section IV of this document, and are assured by condition #4. Therefore, a permit shield is being granted for these requirements in condition #41.

District Rule 2031; 2070, 7.0; and 2080
Compliance with these requirements was addressed in Section IV of this document, and is assured by conditions #5 and #6. Therefore, a permit shield is being granted for these requirements in condition #41.

District Rule 2040
Compliance with these requirements was addressed in Section IV of this document, and is assured by condition #7. Therefore, a permit shield is being granted for these requirements in condition #41.

District Rule 4101
Compliance with these requirements was addressed in Section IV of this document, and is assured by condition #22. Therefore, a permit shield is being granted for these requirements in condition #41.

District Rule 4601, 5.2, 5.3, 5.8 and 8.0

Compliance with these requirements was addressed in Section IV of this document, and is assured by conditions #23, #24 and #25. Therefore, a permit shield is being granted for these requirements in condition #41.

District Rule 8021, 8031, and 8061

Compliance with these requirements was addressed in Section IV of this document, and is assured by conditions #29, #30, and #32. Therefore, a permit shield is being granted for these requirements in condition #41.

County APCD Rules

Where current District rules assure compliance with comparable county rules that are part of the SIP, a permit shield is granted in template permit condition #39.

Crude Units, Vacuum System, Gas Concentration & Amine

I. EQUIPMENT LISTING

The following table is a list of the equipment included in this category:

Permit Unit #	Equipment Description
S-34-1-4	CRUDE UNIT INCLUDING DESALTERS, 96 MMBTU/HR REFINERY/NATURAL GAS FIRED CRUDE HEATER H-100 WITH LOW NOX BURNERS, NOX, CO, AND O2 CEM, FRACTIONING TOWER (V-101), STRIPPER (V-103), AND MISC PUMPS, PIPING, & HEAT EXCHANGERS.
S-34-2-5	VACUUM UNIT INCLUDING 38.3 MM BTU/HR REFINERY GAS FIRED HEATER H-200 W/ 10 JOHN ZINK LNC-PC-35 BURNERS, THERMAL DENOX SYSTEM, DISTILLATION TOWER, 3 STEAM INJECTORS, EJECTOR DISCHARGE DRUM (V-201), AND MISC. PUMPS, PIPING, HEAT EXCHANGERS, AND VESSELS.
S-34-4-3	GAS CONCENTRATION OPERATION INCLUDING 2 ABSORBERS (34-V-402+403), NAPHTHA STABILIZER (V-404), COMPRESSOR (C-400) AND MISCELLANEOUS VESSELS, DRUMS, EXCHANGERS AND PUMPS.
S-34-5-4	AMINE TREATING OPERATION INCLUDING VAPOR RECOVERY (V-110), LPG (V-406) AND COKER FUEL GAS (V-413) CONTACTORS, RICH AMINE FLASH DRUM, FUEL DISTRIBUTION SYSTEM, PIPING TO PERMIT S-33-14, AMINE SUMP AND MISCELLANEOUS PUMPS, PIPING AND VESSELS.

II. GENERAL PERMIT TEMPLATE USAGE

The applicant has chosen not to use any model general permit Templates for the equipment listed above.

III. SCOPE OF EPA AND PUBLIC REVIEW

Equilon Enterprises LLC has not requested to utilize model general permit templates for this type of equipment. All terms and conditions from the proposed permits are subject to EPA and public review.

IV. APPLICABLE REQUIREMENTS ADDRESSED BY GENERAL PERMIT TEMPLATES

The applicant has not proposed to utilize any model general permit templates. All applicable requirements are explicitly addressed in the permit outside of the general permit templates.

V. APPLICABLE REQUIREMENTS NOT ADDRESSED BY GENERAL PERMIT TEMPLATES

District New and Modified Stationary Source Review Rule

District Rule 1080, Stack Monitoring (Amended December 16, 1993)

District Rule 1081, Source Sampling (Amended December 16, 1993) (Non SIP replacement for Kern County Rule 108.1)

District Rule 2520, Sections 9.3.2 and 9.4.2, Federally Mandated Operating Permits (Adopted June 15, 1995)

District Rule 4001, New Source Performance Standards (Amended April 14, 1999)

District Rule 4201, Particulate Matter Concentration (Amended December 17, 1992)

District Rule 4301, Fuel Burning Equipment (Amended December 17, 1992)

District Rule 4305, Boilers, Steam Generators, and Process Heaters (Amended December 19, 1996)

District Rule 4351, Boilers, Steam Generators, and Process Heaters - Reasonably Available Control Technology (Amended October 19, 1995)

District Rule 4451, Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants (Amended December 17, 1992)

District Rule 4452, Pump and Compressors Seals at Petroleum Refineries and Chemical Plants (Amended December 17, 1992)

District Rule 4454, Refinery Process Unit Turnaround (Amended December 17, 1992)

District Rule 4801, Sulfur Compounds (Amended December 17, 1992) (Non SIP replacement for Kern County Rule 407)

40 CFR Part 60, Subpart J, Standards of Performance for Petroleum Refineries

40 CFR Part 60, Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

VI. REQUIREMENTS NOT FEDERALLY ENFORCEABLE

For each Title V source, the District issues a single permit that contains the Federally Enforceable requirements, as well as the District-only requirements. The District-only requirements are not a part of the Title V Operating Permits. The terms and conditions that are part of the facility's Title V permit are designated as Federally Enforceable Through Title V Permit.

VII. COMPLIANCE

A. Requirements Addressed by Model General Permit Templates

The applicant is not proposing to use a general permit template for this category of permit units. Compliance with all federally applicable requirements will be addressed in the following Section of this engineering evaluation.

B. Requirements Not Addressed by Model General Permit Templates

1. New and Modified Stationary Source Review Rule

a. Crude Unit Operation (S-34-1-4)

Permit unit S-34-1 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). ATC S-34-1-9 was issued by the SJVUAPCD on 06/25/02.

- Conditions 1 through 3 of the PTO have been included as conditions 1 through 3 of the requirements for this permit unit.
- Condition 9 from ATC was re-written on the subsequent PTO to accurately clarify the condition's requirements and therefore, this condition from PTO S-34-2-9 is used and included as condition 4 of the requirements for the permit unit S-34-1-4.
- Conditions 5, 6, and 7 of the PTO have been replaced with specific conditions in the requirements for this permit unit.
- Conditions 8 through 22 of the PTO have been included as conditions 4 through 18 of the requirements for this permit unit.

b. Vacuum Unit Operation (S-34-2-5)

Permit unit S-34-2 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). ATC S-34-2-9 was issued by the SJVUAPCD on 06/25/02.

- Condition 1 of the PTO has been included as condition 1 of the requirements for this permit unit.
- Conditions 2 and 3 of the PTO have been replaced with specific conditions in the requirements for this permit unit.
- Condition 10 from ATC was re-written on the subsequent PTO to accurately clarify the condition's requirements and therefore, this condition from PTO S-34-2-9 is used and included as condition 4 of the requirements for the permit unit S-34-2-5.
- Condition 5 of the PTO has been included as condition 2 of the requirements for this permit unit.
- Conditions 6 of the PTO has been replaced with specific conditions in the requirements for this permit unit
- Conditions 7 through 22 of the PTO have been included as conditions 3 through 18 of the requirements for this permit unit.

c. Gas Concentration Operation (S-34-4-3)

Permit unit S-34-4 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO has been has been replaced with specific conditions in the requirements for this permit unit.
- Conditions 2 and 3 of the PTO have been replaced with specific conditions in the requirements for this permit unit.
- Condition 4 of the PTO has been included as condition 2 of the requirements for this permit unit.
- Conditions 5 and 6 of the PTO have been replaced with specific conditions in the requirements for this permit unit.
- Conditions 7 and 8 of the PTO have been included as conditions 4 through 5 of the requirements for this permit unit.

d. Amine Treating Operation (S-34-5-4)

Permit unit S-34-5 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of

Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO has been included as condition 1 of the requirements for this permit unit.
- Condition 2 of the PTO has been replaced with specific conditions in the requirements for this permit unit.
- Condition 3 of the PTO has been has been replaced with specific conditions in the requirements for this permit unit.
- Conditions 4 and 6 of the PTO have been replaced with specific conditions in the requirements for this permit unit.
- Conditions 7 through 9 of the PTO have been included as conditions 4 through 6 of the requirements for this permit unit.
- Condition 10 has been removed for not complying with the requirements for this permit unit.

2. District Rule 1080, <u>Stack Monitoring</u>

District Rule 1080 has been submitted to EPA to replace each of the county rules in the SIP: Rule 108 (Kern). The Delayed Coking Operation, Section VII.B.3, lists all of the applicable requirements of District Rule 1080 and shows which are included in the rule from each county. This table shows that District Rule 1080 is at least as stringent as the county SIP rules for Source Monitoring.

a. Crude Unit Operation (S-34-1-4)

- Condition 3 of the PTO has been included as condition 3 of the requirements for this permit unit.
- Section 6.5 requires that a continuous emissions monitoring systems (CEMS) be installed at the request of the District and meet certain performance specifications. Conditions 21 through 26 of the requirements will cover these performance specifications for this permit unit.
- Section 7.2 requires that CEMS data be reduced following specified procedures. These procedures are covered by Condition #21 of the requirements for this permit unit.
- Section 7.3 requires records be maintained for at least two years and contain the occurrence and duration of any start-up, shut-down or malfunction, performance testing, calibrations and checks, adjustments, maintenance of CEMS, and emissions measurements. Maintenance of such records is required by Condition #22 of the requirements for this permit unit.

- Section 8.0 requires a quarterly report be submitted to the District. Such a report is required by Condition #26 of the requirements for this permit unit.
- Section 9.0 requires the owner or operator to report to the APCO the occurrence of any violation of emissions standards within 96 hours. Such a report is required by Condition #24 of the requirements for this permit unit.
- Section 10 requires that the APCO be notified no later than eight hours after the detection of a breakdown of the CEMS. It also requires the operator to inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. Such reporting is required by Condition #25 of the requirements for this permit unit.

3. District Rule 1081, Source Sampling

District Rule 1081 has been submitted to the EPA to replace Kern County Rule 108.1, which is in the SIP. District Rule 1081 is as stringent as Kern County Rule 108.1, as shown on Table 2.

Table 2 - Comparison of District Rule 1081 and Kern County Rule 108.1

REQUIREMENTS	1081 District	108.1 Kern
Upon request of the APCO, the source shall provide info. and records to enable the APCO to determine when a representative sample can be taken.	✓	✓
The facility shall collect, have collected or allow the APCO to collect, a source sample	✓	✓
The source shall have District personnel present at a source test	✓	
The applicable test method, if not specified in the rule, shall be conducted in accordance with 40 CFR § 60, Appendix A	✓	
Test procedures: 1) arithmetic mean of three runs, 2) a scheduled source test may not be discontinued solely due to the failure to meet the applicable standard(s), and 3) arithmetic mean of two runs is acceptable if circumstances beyond owner or operator control occurs.	✓	

Sections 3.0, 4.0, 5.0, 6.0, and 7.0 of District Rule 1081 set forth requirements for sampling facilities, collection of samples, test methods, test procedures, and administrative requirements, respectively.

a. Crude Unit Operation (S-34-1-4)

- Conditions 6, 11, 12, and 13 of the requirements for this permit unit assure compliance with this rule.

b. Vacuum Unit Operation (S-34-2-5)

- Conditions 7, 12, 13 and 14 of the requirements for this permit unit assure compliance with this rule.

4. District Rule 2520, Sections 9.3.2 and 9.4.2, Federally Mandated Operating Permits

Section 9.3.2

This section requires that periodic monitoring and/or recordkeeping be performed if none is associated with a given emission limit to ensure compliance and will be supported by the following conditions in the requirements of these permit units.

a. Crude Unit Operation (S-34-1-4)

- Conditions 4, 7 through 10, 57 through 60 and 62 of the requirements for this permit unit assure compliance with this rule.

b. Vacuum Unit Operation (S-34-2-5)

- Conditions 4, 8 through 11, 47 through 51 and 53 of the requirements for this permit unit assure compliance with this rule.

Section 9.4.2

This section requires retention of records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, or report and will be supported by the following conditions in the requirements of these permit units.

a. Crude Unit Operation (S-34-1-4)

- Conditions 16, 27, and 45 of the requirements for this permit unit assure compliance with this rule.

b. Vacuum Unit Operation (S-34-2-5)

- Conditions 16 and 36 of the requirements for this permit unit assure compliance with this rule.

5. District Rule 4001, New Source Performance Standards

This rule incorporates the New Source Performance Standards from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR). All new sources of air pollution and modification of existing sources of air pollution shall comply with the standards, criteria, and requirements set forth therein.

a. Crude Unit Operation (S-34-1-4)

- Conditions 1 and 5 of the requirements for this permit unit assure compliance with this rule.

b. Vacuum Unit Operation (S-34-2-5)

- Conditions 1 and 3 of the requirements for this permit unit assure compliance with this rule.

c. Gas Concentration Operation (S-34-4-3)

- Conditions 1 and 2 of the requirements for this permit unit assure compliance with this rule.

d. Amine Treating Operation (S-34-5-4)

- Condition 2 of the requirements for this permit unit assures compliance with this rule.

6. District Rules 4201, 3.1, Particulate Matter Concentration and 4301, 5.1 & 5.2.3, Fuel Burning Equipment

EPA issued a relative stringency finding, dated August 20, 1996, stating that District Rule 4201 is more stringent than SIP approved Kern County Rule 404. Section 3.0 of District Rule 4201 requires emissions to be at or below 0.1 grains of particulate matter per dry standard cubic foot of exhaust gas.

District Rules 4201, 3.1 and 4301, 5.1 & 5.2.3, contain limits on emissions of particulate matter (PM). The following analysis shows that the proposed PM requirements are as stringent as District Rules 4301 and 4201. Streamlining procedures, as documented in the following pages, are used to substitute the proposed set of requirements for the otherwise applicable requirements.

Step 1. Side-by-side Comparison of Applicable Requirements:

CITATION:	District Rule 4201	District Rule 4301	Proposed Requirements
WORK	None	None	None

PRACTICE STANDARDS:			
EMISSION LIMIT:	0.1 grain/cf, at dry standard conditions [4201, 3.1]	0.1 grain/cf, calculated to 12% CO_2 at dry standard conditions [4301, 5.1] 10 lb/hr [4301, 5.2.3]	0.1 grain/dscf [4201, 3.1] 0.1 grain/cf, calculated to 12% CO_2 at dry standard conditions [4301, 5.1] 10 lb/hr [4301, 5.2.3]
MONITORING:	None	None	source testing when firing on residual oil (including crude) within 60 days of said firing [2520, 9.3.2]
RECORD KEEPING:	None	None	record daily amount of all fuels combusted, the dates on which firing on any fuel other than certified gaseous or diesel fuel has occurred, as well as the type of non-certified fuel fired [2520, 9.3.2]
REPORTING:	None	None	None
TEST METHODS:	Particulate matter concentration - EPA Method 5 [4201, 4.1] Stack gas velocity - EPA Method 2 [4201, 4.2] Stack gas moisture - EPA Method 4 [4201, 4.3]	Particulate matter concentration - EPA Method 5 [4301, 5.1] Stack gas velocity - EPA Method 2 [4301, 5.5] Stack gas moisture - EPA Method 4 [4301, 5.6]	Particulate matter concentration - EPA Method 5 (note EPA Methods 2 and 4 are referenced within Method 5) [4301, 5.1 and 4201, 4.1]

Step 2. Select most stringent emission limit or performance standard:

The proposed PM emission limits of:

0.1 grain/dscf of gas calculated to 12% carbon dioxide, and

0.1 grain/dscf of gas, and

10 lb/hr

are at least as stringent as those imposed by District Rules 4201 and 4301, as demonstrated below:

Compliance with PM Limit - District Rule 4301, 5.1:

This rule requires PM emissions to be limited to the following:

0.1 grain per cubic foot of gas calculated to 12% carbon dioxide at dry standard conditions and

10 lb/hr

The proposed conditions include these requirements and are therefore at least as stringent as District Rule 4301.

Compliance with PM Limit - District Rule 4201:

This rule requires PM emissions to be limited to the following:

0.1 grain per cubic foot of gas at dry standard conditions

The excess air in the exhaust is in the ranges from 0 to 4%, when calculated at 12% carbon dioxide (see Attachment C). Since maximum particulate emissions occur at 0% excess air, which may occur at operating CO_2 levels and dry standard conditions, the above limit is also included as a condition of this template. The proposed limits are at least as stringent as the requirements of this rule.

Step 3. Conditions ensuring compliance with applicable requirements

An excess air concentration of 0% in the exhaust results in the maximum particulate matter concentration for any given emission rate. Therefore, the following calculations use an uncorrected F factor to represent worst-case emissions. Calculations determining the excess air concentrations for 12% CO_2 are shown in Attachment C.

GASEOUS FUEL FIRED UNITS

The following calculations, using AP42 emission factors for natural gas, demonstrate that the emission of PM during the firing of gaseous fuels complies with the limits of these rules.

$$\left(\frac{13.7\ lb\ PM}{10^6\ cf}\right)\left(\frac{1\ scf}{900\ Btu}\right)\left(\frac{200\ MMBtu}{hr}\right)=\left(\frac{3.0\ lb\ PM}{hr}\right)<\left(\frac{10\ lb\ PM}{hr}\right)$$

$$\left(\frac{13.7\ lb\ \mathrm{PM}}{10^6\ ft^3}\right)\left(\frac{1\ scf}{900\ Btu}\right)\left(\frac{1\ MMBtu}{8710\ dscf}\right)\left(\frac{7000\ grain}{1\ lb}\right)\ =\ \left(\frac{0.01\ grain}{dscf}\right)<\left(\frac{0.1\ grain}{dscf}\right)$$

where:

$13.7\ \frac{lb\ PM}{10^6\ cf}$ = sum of filterable and condensable uncontrolled emission factors for natural gas-fired boilers (AP42, Table 1.4-2)

$\frac{900\ Btu}{1\ scf}$ = the minimum expected higher heating value of natural gas (AP42, Table 1.4.1)

$\frac{200 MMBtu}{hr}$ = maximum heat input for gas fired unit in this facility

$\frac{8710\ dscf}{1\ MMBtu}$ = F factor, Fd, for natural gas at 0% O_2 (40CFR60, App. A, Table 19-1)

$\frac{10{,}610\ wscf}{1\ MMBtu}$ = F factor, Fw, for natural gas at 0% O_2 (40CFR60, App. A, Table 19-1)

$\frac{7000\ grain}{1\ lb}$ = conversion factor (AP42, Appendix A)

The only constituents found in non-regulated gas streams that contribute to the formation of PM are sulfur and, occasionally, trace amounts of metals. Any metals present in the gas stream are removed during the free water knock-out stage in the condenser at the compressor. The results of source tests on units operating on natural gas show PM levels far below allowable levels (actual source tests are on file with the District). Based on these source test results and the preceding compliance analysis, compliance with applicable PM limits is assured without the need for PM testing.

Compliance with the all the proposed conditions of this streamlining action is as follows:

a. Crude Unit Operation (S-34-1-4)

- Condition 55 of the requirements for this permit unit assures compliance with this rule.

b. Vacuum Unit Operation (S-34-2-5)

- Condition 46 of the requirements for this permit unit assures compliance with this rule.

Step 4. Certify compliance

By complying with the conditions in the requirements for these permit units, the applicant is certifying compliance with all applicable requirements.

Step 5. Compliance schedule for new monitoring requirements

None

7. District Rule 4301, Section 5.2.1, Fuel Burning Equipment

Section 5.2.1 of District Rule 4301 limits the emission of SO_X to 200 lb/hr (calculated as SO_2). Assuming that all sulfur compounds are converted to SO_2, this is equivalent to 100 lb of elemental sulfur per hour (see Attachment D). Operators have the option of complying with this emission limit by using certified fuels, by complying with fuel sulfur content limits, or by source testing the emission unit in combination with fuel analysis.

The following calculations, using AP-42 emission factors for natural gas and for diesel fuel oil, demonstrate that units using certified fuels are expected to comply with the limit of this rule.

Natural Gas Fired:

$$\frac{\left(100\frac{lb\ S}{hr}\right)\left(\frac{453.59\ g\ CH_4}{lb\ CH_4}\right)\left(\frac{23.7\ L\ CH_4}{gmol\ CH_4}\right)\left(\frac{0.00105\ MMBtu}{scf\ CH_4}\right)}{\left(\frac{16.04\ g\ CH_4}{gmol\ CH_4}\right)\left(\frac{28.317\ L\ CH_4}{scf\ CH_4}\right)\left(200\frac{MMBtu}{hr}\right)} = \left(\frac{0.012\ lb\ \mathrm{S}}{lb\ CH_4}\right) \approx 3\%$$

where:

$100\frac{lb\ S}{hr} = 200\frac{lb\ SO_X}{hr}$ = District Rule 4301, 5.2.1 emission limit (see Attachment D)

$\frac{453.59\ g\ CH_4}{lb\ CH_4}$ = conversion factor (AP-42, Appendix A)

$23.7\frac{L}{gmol} = \frac{(288.7K)\left(22.4\frac{L}{gmol}\right)}{273.15K}$ = molar volume of an ideal gas corrected to standard conditions (60^{o} F, 14.7 psi) per Charles' Law

$\frac{0.00105\ MMBtu}{scf\ CH_4}$ = heating value for natural gas (AP-42, Appendix A)

$\frac{16.04\ g\ CH_4}{gmol\ CH_4}$ = molecular weight of gaseous fuel

$\frac{28.317\ L\ CH_4}{scf\ CH_4}$ = conversion factor (AP-42, Appendix A)

$200\ \frac{MMBtu}{hr}$ = maximum heat input of largest gas fired unit in this facility

The equation shows that using the emission rate limit of 200 lb SO_X/hr corresponds to natural gas with a 3% by weight sulfur content. Utilizing PUC regulated natural gas which has a maximum sulfur content of 0.017% [Public Utilities Code General Order 58-B] equates to an emission rate of less than the 200 lb SO_x/hr limit. Units using PUC or FERC regulated natural gas will comply with this requirement.

Using Non-certified Fuels:

This facility is using non-certified fuels. Therefore, the operator shall demonstrate compliance by fuel analysis of non-certified fuels, and compliance shall be determined by multiplying the sulfur content of the fuel in lb/MMBtu by the maximum hourly heat input rating of the unit in MMBtu/hr, and comparing the result to the 100 lb sulfur per hour limit. Alternatively the operator may choose to source test to determine control efficiency and perform routine fuel analysis to determine uncontrolled emissions.

Compliance with applicable requirements

Compliance with this requirement is assured by the following conditions in the requirements for these permit units.

a. Crude Unit Operation (S-34-1-4)

- Conditions 72 and 73 of the requirements for this permit unit assure compliance with this rule.

b. Vacuum Unit Operation (S-34-2-5)

- Conditions 61 and 62 of the requirements for this permit unit assure compliance with this rule.

8. District Rule 4301, Section 5.2.2, Fuel Burning Equipment

This rule limits the emission of NO_x to 140 lb/hr (calculated as NO_2). The following analysis demonstrates that compliance is expected:

GAS FIRED:

$$\left(\frac{140\frac{lb\cdot NO_X}{10^6\cdot ft^3}}{0.00105\frac{MMBtu}{ft^3}}\right)\left(100\frac{MMBtu}{hr}\right)=13.3\frac{lb\cdot NO_X}{hr}$$

RESIDUAL FUEL OIL FIRED:

$$\left(\frac{55\frac{lb\cdot NO_X}{10^3\cdot gal}}{0.150\frac{MMBtu}{gal}}\right)\left(45\frac{MMBtu}{hr}\right)=16.5\frac{lb\cdot NO_X}{hr}$$

where:

$55\frac{lb\cdot NO_X}{10^3\cdot gal}=$ uncontrolled NO_x emission factor for residual oil fired boilers (AP42, Table 1.3-2)

$0.150\frac{MMBtu}{gal}=150{,}000\frac{Btu}{gal}=$ heating value for residual oil (AP42, Appendix A)

$140\frac{lb\cdot NO_X}{10^6\cdot ft^3}=$ uncontrolled NO_x emission factor for gas fired boilers (AP42, Table 1.4-2)

$0.00105\frac{MMBtu}{ft^3}=1050\frac{Btu}{ft^3}=$ natural gas heating value (AP42, Table 1.4-2)

The preceding calculations clearly demonstrate that NO_x emissions, for even the largest units firing gaseous in this facility, are well below the limit of 140 lb/hr from District Rule 4301. NO_x emissions are approximately 1/10 or less of that allowed by Rule 4301. For gaseous, compliance is assure by monthly measurements of NO_X using District approved portable analyzers and annual source testing.

a. Crude Unit Operation (S-34-1-4)

- Condition 63 of the requirements for this permit unit assures compliance with this rule.

b. Vacuum Unit Operation (S-34-2-5)

- *Condition 54 of the requirements for this permit unit assures compliance with this rule.*

9. District Rule 4305, Boilers, Steam Generators, and Process Heaters (Amended December 19, 1996) and District Rule 4351, Boilers, Steam Generators, and Process Heaters - Reasonably Available Control Technology (Amended October 19, 1995)

a. 96.0 MMBtu/hr Crude Unit Operation (S-34-1-4)

a. Conditions 2, 4, 7 through 10, 14, 16, 20, 27, 28, 60 and 62 of the requirements for this permit unit assure compliance with this rule.

b. 38.3 MMBtu/hr Vacuum Unit Operation (S-34-2-5)

- Conditions 4, 8 through 11 16, 19, 51 and 53 of the requirements for this permit unit assure compliance with this rule.

10. District Rule 4451, Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants

District Rule 4451 limits leaks from valves, pressure relief valves, flanges, threaded connections, and process drains that may result in fugitive emissions of VOC at petroleum refineries and chemical plants. Inspection, repair and maintenance schedules, recordkeeping and administrative requirements, and test methods are specified.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

For permit unit whose valves, pressure relief valves, flanges, threaded connections and process drains subject to District Rule 4451 only:

a. Crude Unit Operation (S-34-1-4)

Conditions 29 through 45 of the requirements for this permit unit assure compliance with this rule.

b. Vacuum Unit Operation (S-34-2-5)
Conditions 20 through 36 of the requirements for this permit unit assure compliance with this rule.

c. Gas Concentration Operation (S-34-4-3)
Conditions 6 through 22 of the requirements for this permit unit assure compliance with this rule.

d. Amine Treating Operation (S-34-5-4)
Conditions 7 through 23 of the requirements for this permit unit assure compliance with this rule.

Permit Shield

The applicant is requesting a permit from the requirements of District Rule 4451. Compliance with permit conditions in the Operating Permit shall be deemed compliant with District Rule 4451 and a permit shield is granted from the requirements of this rule. See the following permit conditions:

a. Crude Unit Operation (S-34-1-4)

- Condition 63 of the requirements for this permit unit assures compliance with this rule

b. Vacuum Unit Operation (S-34-2-5)

- Condition 54 of the requirements for this permit unit assures compliance with this rule

c. Gas Concentration Operation (S-34-4-3)

- Condition 99 of the requirements for this permit unit assures compliance with this rule

d. Amine Treating Operation (S-34-5-4)

- Condition 98 of the requirements for this permit unit assures compliance with this rule

11. District Rule 4452, Pump and Compressor Seals at Petroleum Refineries and Chemical Plants

This rule limits leaks from pumps and compressors and associated seals that may result in fugitive emissions of VOC at petroleum refineries and

chemical plants. Inspection, repair and maintenance schedules, recordkeeping and administrative, and test methods are specified.

For permit unit whose pumps and compressor seals subject to District Rule 4452 only:

a. Crude Unit Operation (S-34-1-4)

- Conditions 44, 46 through 52 of the requirements for this permit unit assure compliance with this rule.

b. Vacuum Unit Operation (S-34-2-5)

- Conditions 35, 37 through 43 of the requirements for this permit unit assure compliance with this rule.

c. Gas Concentration Operation (S-34-4-3)

- Condition 21, 23 through 29 of the requirements for this permit unit assures compliance with this rule.

d. Amine Treating Operation (S-34-5-4)

- Condition 22, 24 through 30 of the requirements for this permit unit assures compliance with this rule.

Permit Shield

The applicant is requesting a permit from the requirements of District Rule 4452. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4452 and a permit shield is granted from the requirements of this rule. See the following permit conditions:

a. Operation (S-34-1-4)

- Condition 64 of the requirements for this permit unit assures compliance with this rule

b. Vacuum Unit Operation (S-34-2-5)

- Condition 55 of the requirements for this permit unit assures compliance with this rule

c. Gas Concentration Operation (S-34-4-3)

- Condition 100 of the requirements for this permit unit assures compliance with this rule

d. Amine Treating Operation (S-34-5-4)

- Condition 99 of the requirements for this permit unit assures compliance with this rule

12. District Rule 4454, Refinery Process Unit Turnaround

District Rule 4454 has been submitted to the EPA to replace Kern County Rule 414.3 which is in the SIP. District Rule 4454 is as stringent as Kern County Rule 414.3, as shown on Table 4.

Table 3 - Comparison of District Rule 4454 and Kern County Rule 414.3

REQUIREMENT	District Rule 4454	Kern County Rule 414.3
A person shall not depressurize any vessel containing VOCs unless the process unit turnaround is accomplished by employing one of the following operating procedures: a. The organic vapors shall either be recovered, added to the refinery fuel gas system and combusted; or controlled and piped to an appropriate firebox or incinerated for combustion; or flared, until the pressure within the process vessel is as close to atmospheric pressure as is possible. b. All process vessels shall be depressurized into the control facilities to less than 1020 mm Hg (5 psig) before venting/opening to atmosphere. c. All organic compounds which emerge from a refinery process vessel during the purging of said vessel and which otherwise would be emitted to the atmosphere shall be either directed to a flare or incinerator or shall be used for fuel until such disposition of emissions is not technically feasible or is less safe than atmospheric venting.	✓	✓
Any process vessel that has been depressurized to less than 1020 mm Hg (5 psig).	✓	✓

The purpose of this rule is to limit VOC emissions resulting from the purging, repair, cleaning, or otherwise opening or releasing pressure from a refinery vessel during a process unit turnaround.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

a. Crude Unit Operation (S-34-1-4)

- Condition 54 of the requirements for this permit unit assures compliance with this rule.

b. Vacuum Unit Operation (S-34-2-5)

- Condition 45 of the requirements for this permit unit assures compliance with this rule.

c. Gas Concentration Operation (S-34-4-3)

- Condition 30 of the requirements for this permit unit assures compliance with this rule.

d. Amine Treating Operation (S-34-5-4)

- Condition 31 of the requirements for this permit unit assures compliance with this rule.

13. District Rule 4801, Sulfur Compounds

District Rule 4801 has been submitted to the EPA to replace Kern County Rule 407 which is in the SIP. District Rule 4801 is as stringent as Kern County Rule 407, as shown on Table 5.

Table 4 - Comparison of District Rule 4801 and Kern County Rule 407

REQUIREMENT	District Rule 4801	Kern County 407
a person shall not discharge into the atmosphere sulfur compounds exceeding in concentration at the point of discharge 0.2 percent by volume calculated as sulfur dioxide on a dry basis averaged over 15 consecutive minutes.	✓	✓
EPA Method 8 and ARB Method 1-100 shall be used to determine such emissions.	✓	

This rule limits the emission of sulfur compounds to 0.2% by volume (2000 ppmv) calculated as SO_2, on a dry basis averaged over 15 minutes. Operators have the option of complying with this emission limit by using certified fuels, by complying with fuel sulfur content limits, or by source testing the emission unit.

External Combustion Units:

This facility is using non-certified fuels and complies with the emission limit by fuel sulfur content or by source testing the emission unit. The following calculations will determine the sulfur limit for units using natural gas and fuel oil.

Sulfur limit for non-certified gaseous fuels:

Assuming 0% excess air in the exhaust stream corresponds with maximum SO_X emissions concentration (neglecting NO_X and SO_X relative to SO_2 in the exhaust) and that CH_4 represents a typical gaseous fuel, the combustion equation for natural gas is:

$$CH_4 + 2O_2 + 7.56N_2 + YS \rightarrow CO_2 + 2\ H_2O + YSO_2 + 7.56N_2$$

where:

Y = moles of sulfur in the fuel.

Solving the expression for the fraction of SO_2 in the dry exhaust by volume gives:

$$\frac{Y}{1 + 7.56} = 0.002 \Rightarrow Y = 0.01712$$

where:

Y = mole fraction of S per mole of CH_4 combusted
1 = one mole of CO_2
7.56 = number of moles of N_2
0.002 = 0.2% by volume = 2000 ppmv limit per District Rule 4801

Use Y to calculate the weight fraction of S in one mole of CH_4:

$$\frac{(0.01712)(32.06)}{(16.04) + (0.01712)(32.06)} = 0.033 \Rightarrow 3.3\%\ \text{S by weight in the fuel.}$$

where:

32.06 = molecular weight of sulfur (S)
16.04 = molecular weight of methane (CH_4)
0.033 = fraction of S by weight in the fuel

The use of PUC[1] or FERC[2] regulated gas with a maximum sulfur content of 0.017% will assure compliance with this requirement.

The limit determined above for gaseous fuels is 3.3 weight percent sulfur. This value is conservative for field gas, which frequently has a lower heating value and higher exhaust volume flow rate than pure methane. Operators may choose to comply with this fuel sulfur limit by fuel testing using grab sample analysis by GC-FPD/TCD performed in the laboratory. Fuel sulfur content testing shall be performed weekly except that if compliance has been demonstrated for eight consecutive weeks, then the testing frequency shall be semi-annual. In all cases, operator shall record dates on which the unit is fired on non-certified fuel.

[1] Public Utilities Code General Order 58-B.(see Attachment B)
[2] FERC regulated gas has a lower maximum sulfur content (~0.0026%, see Attachment B)

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

a. Crude Unit Operation (S-34-1-4)

- Condition 78 of the requirements for this permit unit assures compliance with this rule.

b. Vacuum Unit Operation (S-34-2-5)

- Condition 67 of the requirements for this permit unit assures compliance with this rule.

14. 40 CFR Part 60, Subpart J, Standards of Performance for Petroleum Refineries

The provisions of this subpart are applicable to petroleum refineries that utilize fuel gas combustion devices, which are equipment, such as process heaters, boilers and flares used to combust fuel gas.

Section 60.104(a)(1) requires that any fuel gas combustion device shall not burn any fuel gas hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf (230 mg/dscm).

Section 60.105 requires the installation of a continuous monitoring system to monitor SO_2 emissions into the atmosphere or the concentration of H_2S in the fuel gas being burned.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

a. Crude Unit Operation (S-34-1-4)

- Conditions 1, 5 and 65 through 70 of the requirements for this permit unit assure compliance with this rule.

b. Vacuum Unit Operation (S-34-2-5)

- Conditions 1, 3 and 56 through 61of the requirements for this permit unit assure compliance with this rule.

c. Gas Concentration Operation (S-34-4-3)

- Condition 1, 2 and 102 through 107 of the requirements for this permit unit assure compliance with this rule.

15. 40 CFR Part 60, Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

40 CFR Part 60, subpart GGG is the standards of performance for equipment leaks of VOC in petroleum refineries. The provisions of this subpart apply to affected facilities in petroleum refineries. Any affected facility that commences construction or modification after January 4, 1983, is subject to the requirements of this subpart. Section § 60.592(a) of subpart GGG requires that each owner or operator subject to the provisions of this subpart shall comply with the requirements of 40 CFR § 60.482-1 to 60.482-10 which are sections of 40 CFR Part 60, Subpart VV, Standards of performance for equipment leaks of VOC in the synthetic organic chemicals manufacturing industry. These standards limit leaks from pumps, compressors, pressure relief devices, sampling connections systems, open-ended valves or lines, valves, pumps, flanges, and connectors.

40 CFR § 60.592(a) requires the facility to comply with the requirements of §60.482-1 to §60.482-10, which include the following standards:

- §60.482-1: Standards (general)
- §60.482-2: Pumps in light liquid service
- §60.482-3: Compressors
- §60.482-4: Pressure relief devices in gas/vapor service
- §60.482-5: Sampling connection systems
- §60.482-6: Open-ended valves or lines
- §60.482-7: Valves in gas/vapor service and in light liquid service
- §60.482-8: Pumps and valves in heavy liquid service
- §60.482-9: Delay of repair
- §60.482-10: Closed vent systems and control devices

40 CFR § 60.592(b) allows the facility to comply with the alternative requirements of §60.483-1 and §60.483-2.

40 CFR § 60.592(c) allows the facility to apply to the Administrator for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart.

40 CFR § 60.592(d) requires the facility to comply with the provisions of §60.485(c) except as provided in §60.593, Exceptions.

40 CFR § 60.592(e) requires the facility to comply with the provisions of §60.486 and §60.487.

The following requirements will be included on permits with affected facilities subject to the requirements specified in Subpart GGG:

The owner or operator may apply to the Administrator for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in Subpart GGG. In doing so, the owner or operator shall comply with the requirements of 40 CFR 60.484. [40 CFR 60.592(c)]

Each pump in light liquid service (PLLS) shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b), except as provided in 40 CFR 60.482-1(c) and 40 CFR 60.482-2(d), (e), and (f). Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. A leak is detected if an instrument reading of 10,000 ppm or greater is measured or if there are indications of liquids dripping from the pump seal. [40 CFR 60.482-2(a) and (b)]

When a leak is detected for each PLLS, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [40 CFR 60.482-2(c)]

Each PLLS equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of 40 CFR 60.482-2(a) provided the requirements specified in 40 CFR 60.482-2(d)(1) through (6) are met. [40 CFR 60.482(d)]

Any PLLS that is designated, as described in 40 CFR 60.486(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 40 CFR 60.482-2(a), (c), and (d) if the pump meets the requirements specified in 40 CFR 60.482-2(e)(1), (2), and (3). [40 CFR 60.482-2(e)]

If any PLLS is equipped with a closed vent system capable of capturing and transporting leakage from the seal or seals to a control device that complies with the requirements of 40 CFR 60.482-10, it is exempt from the requirements of 40 CFR 60.482-2(a) through (e). [40 CFR 60.482-2(f)]

Any pump in PLLS that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of 40 CFR 60.482-2(a) and 40 CFR 60.482-2(d)(4) through (6) if: 1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-2(a); and 2) The owner or operator of the pump has a

written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in 40 CFR 60.482-2(c) if a leak is detected. [40 CFR 60.482-2(g)]

Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of 40 CFR 60.482-2(a)(2) and (d)(4) and the daily requirements of 40 CFR 60.482-2(d)(5), provided that each pump is visually inspected as often as practicable and at least monthly. [40 CFR 60.482-2(h)]

Unless exempt under 40 CFR 60.593, each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in 40 CFR 60.482-3(h) and (i). The barrier fluid system shall be in heavy liquid service or shall not be in VOC service. Each compressor shall be operated and equipped as specified in 40 CFR 60.482-3(b)(1), (2), or (3). [40 CFR 60.482-3(a), (b), and (c)]

If a barrier fluid system is used for a compressor, the barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system or both. Each sensor shall be checked daily or shall be equipped with an audible alarm. The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates failure of the seal system, the barrier system, or both based on the established criterion, a leak is detected. [40 CFR 60.482-3(d), (e), and (f)]

If a barrier fluid system is used for a compressor, detected leaks shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [40 CFR 60.482-3(g)]

Any compressor that is designated, as described in 40 CFR 60.486(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 40 CFR 60.482-3(a) through (h) if the compressor meets the requirements specified in 40 CFR 60.482-3(i)(1) and (2). [40 CFR 60.482-3(i)]

Any existing reciprocating compressor in a process unit which becomes an affected facility under the provisions of 40 CFR 60.14 or 40 CFR 60.15

is exempt from 40 CFR 60.482(a), (b), (c), (d), (e), and (h), provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of 40 CFR 60.482-3(a), (b), (c), (d), (e), and (h). [40 CFR 60.482-3(j)]

Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in 40 CFR 60.485(c). [40 CFR 60.482-4(a)]

After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 40 CFR 60.482-9. No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in 40 CFR 60.485(c). [40 CFR 60.482-4(b)]

Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in 40 CFR 60.482-10 is exempted from the requirements of 40 CFR 60.482-4(a) and (b). [40 CFR 60.482-4(c)]

Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the 40 CFR 60.482-4(a) and (b), provided the owner or operator complies with the requirements in 40 CFR 60.482-4(d)(2) of this section. After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in 40 CFR 60.482-9. [40 CFR 60.482-4(d)]

Except for in-situ sampling systems and sampling systems without purges, each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in 40 CFR 60.482-1(c). Each closed-purge, closed-loop, or closed-vent system shall comply with the requirements specified in 40 CFR 60.482-5(b)(1), (2), (3), and (4). [40 CFR 60.482-5(a), (b), and (c)]

Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR 60.482-1(c). The

cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with this condition at all other times. [40 CFR 60.482-6(a) and (c)]

Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed. [40 CFR 60.482-6(b)]

Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of 40 CFR 60.482-6(a), (b) and (c). [40 CFR 60.482-6(d)]

Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in 40 CFR 60.482-6(a) through (c) are exempt from the requirements of 40 CFR 60.482-6(a) through (c). [40 CFR 60.482-6(e)]

Each valve in gas/vapor service and in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b) and shall comply with 40 CFR 60.482-7(b) through (e), except as provided in 40 CFR 60.482-7(f), (g), and (h), 40 CFR 60.483-1, 40 CFR 60.483-2, and 40 CFR 60.482-1(c). A leak is detected if an instrument reading of 10,000 ppm or greater is measured. [40 CFR 60.482-7(a) and (b)]

Any valve in gas/vapor service or in light liquid service for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months. [40 CFR 60.482-7(c)]

When a leak is detected for any valve in gas/vapor service or in light liquid service, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 40 CFR 60.482-9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices specified in 40 CFR 60.482-7(e)(1), (2), (3), and (4), where practicable. [40 CFR 60.482-7(d) and (e)]

Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 40 CFR 60.482-7(a) if the valve meets the requirements specified in 40 CFR 60.482-7(f)(1), (2), and (3). [40 CFR 60.482-7(f)]

Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of 40 CFR 60.482-7(a) if: 1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-7(a); and 2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times. [40 CFR 60.482-7(g)]

Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of 40 CFR 60.482-7(a) if: 1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface; 2) The process unit within which the valve is located either becomes an affected facility through 40 CFR 60.14 or 40 CFR 60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor; and 3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year. [40 CFR 60.482-7(h)]

The owner or operator may elect to comply with the applicable provisions for valves in gas/vapor service and in light liquid service as specified in 40 CFR 60.483-1 and 60.483-2. [40 CFR 60.592(b)

If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the owner or operator shall follow either one of the following procedures: 1) The owner or operator shall monitor the equipment within 5 days by the method specified in 40 CFR 60.485(b) and shall comply with the requirements of 40 CFR 60.482-8(b) through (d); or 2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak. A leak is detected if an instrument reading of 10,000 ppm or greater is measured. [40 CFR 60.482-8(a) and (b)]

When a leak is detected in pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices described under 40 CFR 60.482-7(e). [40 CFR 60.482-8(c) and (d)]

For closed vent systems and control devices, vapor recovery systems shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent. [40 CFR 60.482-10(b)]

For closed vent systems and control devices, enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 degrees C. [40 CFR 60.482-10(c)]

Flares used to comply with Subpart GGG shall comply with the requirements of 40 CFR 60.18. [40 CFR 60.482-10(d)]

Owners or operators of control devices used to comply with the provisions of Subpart GGG shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. [40 CFR 60.482-10(e)]

Except as provided in 40 CFR 60.482-10(i) through (k), each closed vent system used to comply with the provisions of Subpart GGG shall be inspected according to the procedures and schedule specified in 40 CFR 60.482-10(f)(1) and (f)(2). Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in 40 CFR 60.482-10(h). A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. Repair shall be completed no later than 15 calendar days after the leak is detected. [40 CFR 60.482-10(f) and (g)]

Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions

resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown. [40 CFR 60.482-10(h)]

If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2). [40 CFR 60.482-10(i)]

Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(l)(1), as unsafe to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10 (j)(1) and (j)(2). [40 CFR 60.482-10(j)]

Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(l)(2), as difficult to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10(k)(1) through (k)(3). [40 CFR 60.482-10(k)]

The owner or operator shall record the following information: 1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment; 2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment; 3) For each inspection during which a leak is detected, a record of the information specified in 40 CFR 60.486(c); 4) For each inspection conducted in accordance with 40 CFR 60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected; and 5) For each visual inspection conducted in accordance with 40 CFR 60.482-10(f)(1)(ii) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. [40 CFR 60.482-10(l)]

Closed vent systems and control devices used to comply with provisions Subpart GGG shall be operated at all times when emissions may be vented to them. [40 CFR 60.482-10(m)]

In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR 60, Appendix A or other methods and procedures as specified in 40 CFR 60.485, except as provided in 40 CFR 60.8(b). [40 CFR 60.485(a)]

The owner or operator shall determine compliance with the standards in 40 CFR 60.482, 60.483, and 60.484 as follows: Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used: (i) Zero air (less than 10 ppm of hydrocarbon in air); and (ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane. [40 CFR 60.485(b)]

The owner or operator shall determine compliance with the no detectable emission standards in 40 CFR 60.482-2(e), 60.482-3(i), 60.482-4, 60.482-7(f), and 60.482-10(e) as follows: 1) The requirements of 40 CFR 60.485(b) shall apply. 2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance. [40 CFR 60.485(c)]

The owner or operator shall test each piece of equipment unless demonstrated that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used: 1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference as seen in 40 CFR 60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment; 2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid; and 3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, the previous two procedures as specified in 40 CFR 60.485(d)(1) and (2) shall be used to resolve the disagreement. [40 CFR 60.485(d)]

The owner or operator shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply: 1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 °C (1.2 in. H2O at 68 degrees F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference as seen in 40 CFR 60.17) shall be used to determine the vapor pressures; 2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at

20 degrees Celsius is equal to or greater than 20 percent by weight; and 3) The fluid is a liquid at operating conditions. [40 CFR 60.485(e)]

Samples used in conjunction with 40 CFR 60.485(d), (e), and (g) shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare. [40 CFR 60.485(f)]

The owner or operator shall determine compliance with the standards of flares as specified in 40 CFR 60.485(g)(1), (2), (3), (4), (5), (6), and (7). [40 CFR 60.485(g)]

An owner or operator of more than one affected facility subject to the provisions Subpart GGG may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility. [40 CFR 60.486(a)]

When each leak is detected as specified in 40 CFR 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following requirements apply: 1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment; 2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR 60.482-7(c) and no leak has been detected during those 2 months; and 3) The identification on equipment except on a valve, may be removed after it has been repaired. [40 CFR 60.486(b)]

When each leak is detected as specified in 40 CFR 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following information shall be recorded in a log and shall be kept for 5 years in a readily accessible location: 1) The instrument and operator identification numbers and the equipment identification number; 2) The date the leak was detected and the dates of each attempt to repair the leak; 3) Repair methods applied in each attempt to repair the leak; 4) ``Above 10,000'' if the maximum instrument reading measured by the methods specified in 40 CFR 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm; 5) ``Repair delayed'' and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak; 6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown; 7) The expected date of successful repair of the leak if a leak is not repaired within 15 days; 8) Dates of process unit shutdown that occur while the equipment is unrepaired; and 9) The date of successful repair of the leak. [40 CFR 60.486(c) and District Rule 2520, 9.4.2]

The following information pertaining to the design requirements for closed vent systems and control devices described in 40 CFR 60.482-10 shall be

recorded and kept in a readily accessible location: 1) Detailed schematics, design specifications, and piping and instrumentation diagrams; 2) The dates and descriptions of any changes in the design specifications; 3) A description of the parameter or parameters monitored, as required in 40 CFR 60.482-10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring; 4) Periods when the closed vent systems and control devices required in 40 CFR 60.482-2, 60.482-3, 60.482-4, and 60.482-5 are not operated as designed, including periods when a flare pilot light does not have a flame; and 5) Dates of startups and shutdowns of the closed vent systems and control devices required in 40 CFR 60.482-2, 60.482-3, 60.482-4, and 60.482-5. [40 CFR 60.486(d)]

The following information pertaining to all equipment subject to the requirements in 40 CFR 60.482-1 to 60.482-10 shall be recorded in a log that is kept in a readily accessible location: 1) A list of identification numbers for equipment subject to the requirements of Subpart GGG; 2) (i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 CFR 60.482-2(e), 60.482-3(i) and 60.482-7(f). (ii) The designation of equipment as subject to the requirements of 40 CFR 60.482-2(e), 60.482-3(i) and 60.482-7(f) shall be signed by the owner or operator; 3) A list of equipment identification numbers for pressure relief devices required to comply with §60.482-4; 4) (i) The dates of each compliance test as required in 40 CFR 60.482-2(e), 60.482-3(i), §60.482-4, and 60.482-7(f). (ii) The background level measured during each compliance test. (iii) The maximum instrument reading measured at the equipment during each compliance test; and 5) A list of identification numbers for equipment in vacuum service. [40 CFR 60.486(e)]

The following information pertaining to all valves subject to the requirements of 40 CFR 60.482-7(g) and (h) and to all pumps subject to the requirements of 40 CFR 60.482-2(g) shall be recorded in a log that is kept in a readily accessible location: 1) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump; and 2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve. [40 CFR 60.486(f)]

The following information shall be recorded for valves complying with 40 CFR 60.483-2: 1) A schedule of monitoring; 2) The percent of valves found leaking during each monitoring period. [40 CFR 60.486(g)]

The following information shall be recorded in a log that is kept in a readily accessible location: 1) Design criterion required in 40 CFR 60.482-2(d)(5) and 60.482-3(e)(2) and explanation of the design criterion; and 2) Any changes to this criterion and the reasons for the changes. [40 CFR 60.486(h)]

The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in 40 CFR 60.480(d): 1) An analysis demonstrating the design capacity of the affected facility; 2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol; and 3) An analysis demonstrating that equipment is not in VOC service. [40 CFR 60.486(i)]

Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location. [40 CFR 60.486(j)]

The provisions of 40 CFR 60.7 (b) and (d) do not apply to affected facilities subject to Subpart GGG. [40 CFR 60.486(k)]

All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 CFR 60.486: 1) Process unit identification; 2) For each month during the semiannual reporting period, i) Number of valves for which leaks were detected as described in 40 CFR 60.482-7(b) or 40 CFR 60.483-2, (ii) Number of valves for which leaks were not repaired as required in 40 CFR 60.482-7(d)(1), (iii) Number of pumps for which leaks were detected as described in 40 CFR 60.482-2(b) and (d)(6)(i), (iv) Number of pumps for which leaks were not repaired as required in 40 CFR 60.482-2(c)(1) and (d)(6)(ii), (v) Number of compressors for which leaks were detected as described in 40 CFR 60.482-3(f), (vi) Number of compressors for which leaks were not repaired as required in 40 CFR 60.482-3(g)(1), and (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible; 3) Dates of process unit shutdowns which occurred within the semiannual reporting period; 4) Revisions to items reported in the semiannual report if changes have occurred since the initial report, as required in 40 CFR 60.487 (a) and (b), or subsequent revisions to the initial report. [40 CFR 60.487(c)]

An owner or operator electing to comply with the provisions of 40 CFR 60.483-1 and 60.483-2 shall notify the Administrator of the alternative

standard selected 90 days before implementing either of the provisions. [40 CFR 60.487(d)]

An owner or operator shall report the results of all performance tests in accordance with 40 CFR 60.8 of the General Provisions. The provisions of 40 CFR 60.8(d) do not apply to affected facilities subject to the provisions of Subpart GGG except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests. [40 CFR 60.487(e)]

The semiannual reporting requirements of 40 CFR 60.487(a), (b), and (c) remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of 40 CFR 60.487(a), (b), and (c), provided that they comply with the requirements established by the State. [40 CFR 60.487(f)]

Compressors are exempt from the standards of Subpart GGG if the owner or operator demonstrates that a compressor is in hydrogen service. Each compressor is presumed not to be in hydrogen service unless an owner or operator demonstrates that the piece of equipment is in hydrogen service. For a piece of equipment to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume. For purposes of determining the percent hydrogen content in the process fluid that is contained in or contacts a compressor, procedures that conform to the general method described in ASTM E-260, E-168, or E-169 shall be used. An owner or operator may use engineering judgment demonstrate that the percent content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume. When an owner or operator and the Administrator do not agree on whether a piece of equipment is in hydrogen service, however, the procedures that conform to the general method described in ASTM E-260, E-168, or E-169 shall be used to resolve the disagreement. If an owner or operator determines that a piece of equipment is in hydrogen service, the determination can be revised only after following the procedures that conform to the general method described in ASTM E-260, E-168, or E-169. [40 CFR 60.593(b)]

Any existing reciprocating compressor that becomes an affected facility under provisions of 40 CFR 60.14 or 40 CFR 60.15 is exempt from 40 CFR 60.482-3 (a), (b), (c), (d), (e), and (h) provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into

compliance with the provisions of 40 CFR 60.482-3 (a), (b), (c), (d), (e), and (h). [40 CFR 60.593(c)]

An owner or operator may use the following provision in addition to 40 CFR 60.485(e): Equipment is in light liquid service if the percent evaporated is greater than 10 percent at 150 °C as determined by ASTM Method D86-78, 82, 90, 95, or 96. [40 CFR 60.593(d)]

Pumps in light liquid service and valves in gas/vapor and light liquid service within a procesic compounds of usually high molecular weight that consist of many repeated links, each link being a relatively light and simple molecule. [40 CFR 60.593(e)]

Equipment that is in vacuum service is excluded from the requirements of 40 CFR 60.482-2 to 40 CFR 60.482-10 if it is identified as required in 40 CFR 60.486(e)(5). [40 CFR 60.482-1(d)]

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

a. Crude Unit Operation (S-34-1-4)
Subpart GGG applies to any affected facility that commences construction or modification after January 4, 1983. This unit is not subject to Subpart GGG as it has not been modified or constructed after the applicable date.

b. Vacuum Unit Operation (S-34-2-5)
Subpart GGG applies to any affected facility that commences construction or modification after January 4, 1983. This unit is not subject to Subpart GGG as it has not been modified or constructed after the applicable date.

c. Gas Concentration Operation (S-34-4-3)
Conditions 31 through 98 of the requirements for this permit unit assure compliance with this rule.

d. Amine Treating Operation (S-34-5-4)
Conditions 32 through 97 of the requirements for this permit unit assure compliance with this rule.

Permit Shield

The applicant is requesting a permit from the requirements of 40 CFR 60 Subpart GGG. Compliance with permit conditions in the Operating Permit shall be deemed compliance with 40 CFR 60 Subpart GGG and a permit

shield is granted from the requirements of this rule. See the following permit conditions:

c. Gas Concentration Operation (S-34-4-3)
Condition 101 of the requirements for this permit unit assures compliance with this rule.

d. Amine Treating Operation (S-34-5-4)
Condition 100 of the requirements for this permit unit assures compliance with this rule.

16. Petroleum Refinery MACT Standard

The maximum achievable control technology (MACT) standard for petroleum refineries stems from the Clean Air Act Amendments of 1990. Under the Act, emissions of 189 hazardous air pollutants (HAPs), also known as air toxics, must be regulated. Refineries that are major HAP sources with a potential to emit $\geq$ 10 tons per year (tpy) of any of the 189 HAPs or potential to emit $\geq$ 25 tpy of total HAPs need to comply with the requirements of the MACT standard.

Equilon Enterprises LLC does not have the potential to emit either 10 tpy of any of the 189 HAPs or 25 tpy of total HAPs and therefore is not subject to the requirements of the Petroleum Refinery MACT Standard. Additionally, HAP emissions are assured by conditions 46 and 47 of the facility-wide permit.

17. Permit Shields

A permit shield legally protects a facility from enforcement of the shielded regulations when a source is in compliance with the terms and conditions of the Operating Permit. Compliance with the terms and conditions of the Operating Permit is considered compliance with all applicable requirements upon which those conditions are based, including those that have been subsumed. The applicant has not requested a permit shield.

Crude Units

I. EQUIPMENT LISTING

The following table is a list of the equipment included in this category:

Permit Unit #	Equipment Description
S-34-6-4	CLAUS SULFUR RECOVERY UNIT INCLUDING CATALYTIC REACTOR OXYGEN ENRICHMENT SYSTEM, TAIL GAS TREATING UNIT WITH AMINE REGENERATION AND TAIL GAS INCINERATOR.
S-34-7-4	SOUR WATER STRIPPING OPERATION WITH MISCELLANEOUS UTILITIES INCLUDING BACK-UP AMINE REGENERATOR (V-409), BOILER BLOWDOWN DRUM, WASTEWATER INJECTION WELL, AND MISCELLANEOUS PUMPS AND PIPING
S-34-8-4	WASTEWATER TREATING UNIT INCL OIL WATER SEWER SYSTEM, WASTEWATER TANKS, CORRUGATED PLATE, OIL/WATER SEPARATORS, VAPOR RECOVERY COMPRESSORS, MISC FILTRATION DEVICES, PUMPS, HEAT EXCHANGERS, VESSELS, & INJECTION WELLS
S-34-12-2	STEAM CONDENSATE & DEAERATION OPERATION INCLUDING BOILER FEEDWATER DEAERATOR (DA-900), BOILER FEEDWATER TREATING EQUIPMENT, 2 BOILER BLOWDOWN DRUMS (V-904/915), STEAM CONDENSATE PIPING SYSTEM, AND 3 CHEMICAL TOTE TANKS
S-34-20-6	COKE HANDLING OPERATION INCLUDING 2 PRIMARY AND SECONDARY CRUSHERS, GRIZZLY, 2 DEWATERING SCREENS, COKE SLUICEWAY, 2 COKE SLURRY SETTLING TANKS, 2 COVERED STORAGE BUILDINGS, 2 OUTSIDE COKE STORAGE PADS (FOR A TOTAL OF 2 ACRES), 2 FIXED AND 7 PORTABLE CONVEYORS, 3 SKID-MOUNTED COKE LOADER HOPPERS CONSISTING OF 2 PORTABLE CONVEYORS (1 WITH 2 CONVEYOR BELTS) WITH DISCHARGE CHUTES AND 1 STATIONARY CONVEYOR WITH DISCHARGE CHUTE, AND MISCELLANEOUS SCREENS, PUMPS AND WATER TANKS

II. GENERAL PERMIT TEMPLATE USAGE

The applicant has chosen not to use any model general permit templates for the equipment listed above.

III. SCOPE OF EPA AND PUBLIC REVIEW

Equilon Enterprises LLC has not requested to utilize model general permit templates for this type of equipment. All terms and conditions from the proposed permits are subject to EPA and public review.

IV. APPLICABLE REQUIREMENTS ADDRESSED BY GENERAL PERMIT TEMPLATES

The applicant has not proposed to utilize any model general permit templates. All applicable requirements are explicitly addressed in the permit outside of the general permit templates.

V. APPLICABLE REQUIREMENTS NOT ADDRESSED BY GENERAL PERMIT TEMPLATES

District New and Modified Stationary Source Review Rule

District Rule 2010, Permits Required (Amended December 17, 1992)

District Rule 4201, Particulate Matter Concentration (Amended December 17, 1992)

District Rule 2520, Sections 9.3.2 and 9.4.2, Federally Mandated Operating Permits (Adopted June 15, 1995)

District Rule 4001, New Source Performance Standards (Amended April 14, 1999)

District Rule 4201, Particulate Matter Concentration (Amended December 17, 1992)

District Rule 4451, Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants (Amended December 17, 1992)

District Rule 4452, Pump and Compressors Seals at Petroleum Refineries and Chemical Plants (Amended December 17, 1992)

District Rule 4454, Refinery Process Unit Turnaround (Amended December 17, 1992)

District Rule 4625, Wastewater Separators (Amended December 17, 1992)

40 CFR Part 60, Subpart J, Standards of Performance for Petroleum Refineries

40 CFR Part 60, Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

VI. REQUIREMENTS NOT FEDERALLY ENFORCEABLE

For each Title V source, the District issues a single permit that contains the Federally Enforceable requirements, as well as the District-only requirements. The District-only requirements are not a part of the Title V Operating Permits. The terms and conditions that are part of the facility's Title V permit are designated as Federally Enforceable Through Title V Permit.

District Rule 4102, Nuisance (Amended December 17, 1992)

- For the equipment included in this section, condition 23 of the permit requirements for S-34-6-4 is based on this rule and is not Federally Enforceable through Title V.

VII. COMPLIANCE

A. Requirements Addressed by Model General Permit Templates

The applicant is not proposing to use a general permit template for this category of permit units. Compliance with all federally applicable requirements will be addressed in the following Section of this engineering evaluation.

B. Requirements Not Addressed by Model General Permit Templates

1. New and Modified Stationary Source Review Rule

a. Sulfur Recovery Unit (S-34-6-4)

Permit unit S-34-6 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO has been included as condition 1 of the requirements for this permit unit.
- Condition 2 of the PTO has been included as condition 2 of the requirements for this permit unit.
- Condition 3 of the PTO has been included as condition 3 of the requirements for this permit unit.
- Condition 4 of the PTO has been included as condition 18 of the requirements for this permit unit.
- Condition 5 of the PTO has been included as condition 26 of the requirements for this permit unit.
- Condition 6 of the PTO has been included as condition 20 of the requirements for this permit unit.
- Conditions 7 and 8 of the PTO have been replaced with specific conditions in the requirements for this permit unit.
- Condition 9 of the PTO has been replaced with specific NSPS conditions applicable to units within this permit unit.

- Condition 10 of the PTO has been replaced with specific conditions in the requirements for this permit unit.
- Condition 11 of the PTO has been included as condition 4 of the requirements for this permit unit
- Condition 12 of the PTO has been included as condition 5 of the requirements for this permit unit
- Condition 13 of the PTO has been included as condition 6 of the requirements for this permit unit
- Condition 14 of the PTO has been included as condition 21 of the requirements for this permit unit. 40 CFR 60, Subpart J, does not include provisions for exceeding the allowable SO2 concentration during periods of shutdown, startup, malfunction, or breakdown and this condition has been modified to remove that provision.
- Condition 15 of the PTO has been included as condition 22 of the requirements for this permit unit. Rule 4801 does not include provisions for exceeding the allowable SO2 concentration during periods of shutdown, startup, malfunction, or breakdown and this condition has been modified to remove that provision.
- Condition 16 of the PTO has been included as condition 7 of the requirements for this permit unit
- Condition 17 of the PTO has been included as condition 8 of the requirements for this permit unit
- Condition 18 of the PTO has been included as condition 9 of the requirements for this permit unit
- Condition 19 of the PTO has been included as condition 10 of the requirements for this permit unit
- Condition 20 of the PTO has been included as condition 11 of the requirements for this permit unit
- Condition 21 of the PTO has been included as condition 12 of the requirements for this permit unit
- Condition 22 of the PTO has been included as condition 13 of the requirements for this permit unit
- Condition 23 of the PTO has been included as condition 14 of the requirements for this permit unit
- Condition 24 of the PTO has been included as condition 15 of the requirements for this permit unit
- Condition 25 of the PTO has been included as condition 16 of the requirements for this permit unit
- Condition 26 of the PTO has been included as condition 17 of the requirements for this permit unit

b. Sour Water Stripping (S-34-7-4)

Permit unit S-34-7 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Conditions 1 through 3 of the PTO have been replaced with specific conditions in the requirements for this permit unit.
- Condition 4 of the PTO has been included as condition 1 of the requirements for this permit unit.

c. Wastewater Treatment Unit (S-34-8-4)

Permit unit S-34-8 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO has been included as condition 1 of the requirements for this permit unit.
- Condition 2 of the PTO has been included as condition 2 of the requirements for this permit unit.
- Conditions 3 through 5 of the PTO have been replaced with specific conditions in the requirements for this permit unit.
- Condition 6 of the PTO has been included as condition 3 of the requirements for this permit unit.
- Condition 7 of the PTO has been included as condition 4 of the requirements for this permit unit.
- Conditions 8 and 9 of the PTO have been included as conditions 13 and 14 of the requirements for this permit unit.
- Condition 10 of the PTO has been included as condition 5 of the requirements for this permit unit.
- Condition 11 of the PTO has been included as condition 6 of the requirements for this permit unit.
- Condition 12 of the PTO has been included as condition 7 of the requirements for this permit unit.
- Condition 13 of the PTO has been included as condition 8 of the requirements for this permit unit.
- Condition 14 of the PTO has been included as condition 9 of the requirements for this permit unit.

- Condition 15 of the PTO has been included as condition 10 of the requirements for this permit unit.
- Condition 16 of the PTO has been included as condition 11 of the requirements for this permit unit.
- Condition 17 of the PTO has been included as condition 12 of the requirements for this permit unit.

d. Steam Condensate and Deaeration (S-34-12-2)

Permit unit S-34-12 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Conditions 1 and 2 of the PTO have been replaced with specific conditions in the requirements for this permit unit.
- Condition 3 of the PTO has been included as condition 1 of the requirements for this permit unit.
- Condition 4 of the PTO has been included as condition 26 of the requirements for this permit unit. Record retention has been increased from two to five years to comply with District Rule 2520, 9.4.2.

e. Coke Handling Operation (S-34-20-6)

Permit unit S-34-20 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO has been included as condition 1 of the requirements for this permit unit.
- Condition 2 of the PTO has been included as condition 2 of the requirements for this permit unit.
- Condition 3 of the PTO has been included as condition 3 of the requirements for this permit unit.
- Condition 4 of the PTO has been included as condition 4 of the requirements for this permit unit.
- Condition 5 of the PTO has been included as condition 5 of the requirements for this permit unit.

- Condition 6 of the PTO has been included as condition 6 of the requirements for this permit unit.
- Condition 7 of the PTO has been included as condition 7 of the requirements for this permit unit.

2. District Rule 2520, Sections 9.3.2 and 9.4.2, Federally Mandated Operating Permits

Section 9.4.2

This section requires retention of records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, or report and will be supported by the following conditions in the requirements of these permit units.

Sulfur Recovery Unit (S-34-6-4)

- Conditions 17 and 55 of the requirements for this permit unit assure compliance with this rule.

Sour Water Stripping (S-34-7-4)

- Condition 91 of the requirements for this permit unit assures compliance with this rule.

Wastewater Treatment Unit (S-34-8-4)

- Condition 45 of the requirements for this permit unit assures compliance with this rule.

Steam Condensate and Deaeration (S-34-12-2)

- Conditions 17 and 26 of the requirements for this permit unit assure compliance with this rule.

Coke Handling Operation (S-34-20-6)

- Conditions 23 and 25 of the requirements for this permit unit assure compliance with this rule.

3. District Rule 4001, New Source Performance Standards

This rule incorporates the New Source Performance Standards from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR). All new sources of air pollution and modification of existing sources of air pollution shall comply with the standards, criteria, and requirements set forth therein.

a. Sulfur Recovery Unit (S-34-6-4)

- Conditions 18 through 20 of the requirements for this permit unit assures compliance with this rule.

b. Wastewater Treatment Unit (S-34-8-4)

- Condition 12 of the requirements for this permit unit assures compliance with this rule.

4. District Rule 4201, <u>Particulate Matter Concentration</u>

EPA issued a relative stringency finding, dated August 20, 1996, stating that District Rule 4201 is more stringent than SIP approved Kern County Rule 404. Section 3.0 of District Rule 4201 requires emissions to be at or below 0.1 grains of particulate matter per dry standard cubic foot of exhaust gas.

The following calculations, using AP42 emission factors for natural gas, demonstrate that the emission of PM during the firing of gaseous fuels complies with the limits of these rules.

$$\left(\frac{13.7\ lb\ PM}{10^6\ cf}\right)\left(\frac{1\ scf}{900\ Btu}\right)\left(\frac{200\ MMBtu}{hr}\right)=\left(\frac{3.0\ lb\ PM}{hr}\right)<\left(\frac{10\ lb\ PM}{hr}\right)$$

$$\left(\frac{13.7\ lb\ \mathrm{PM}}{10^6\ ft^3}\right)\left(\frac{1\ scf}{900\ Btu}\right)\left(\frac{1\ MMBtu}{8710\ dscf}\right)\left(\frac{7000\ grain}{1\ lb}\right)\ =\ \left(\frac{0.01\ grain}{dscf}\right)<\left(\frac{0.1\ grain}{dscf}\right)$$

where:

$13.7\ \frac{lb\ PM}{10^6\ cf}$ = sum of filterable and condensable uncontrolled emission factors for natural gas-fired boilers (AP42, Table 1.4-2)

$\frac{900\ Btu}{1\ scf}$ = the minimum expected higher heating value of natural gas (AP42, Table 1.4.1)

$\frac{200 MMBtu}{hr}$ = maximum heat input for gas fired unit in this facility

$\frac{8710\ dscf}{1\ MMBtu}$ = F factor, Fd, for natural gas at 0% O_2 (40CFR60, App. A, Table 19-1)

$\frac{10{,}610\ wscf}{1\ MMBtu}$ = F factor, Fw, for natural gas at 0% O_2 (40CFR60, App. A, Table 19-1)

$\frac{7000\ grain}{1\ lb}$ = conversion factor (AP42, Appendix A)

The only constituents found in non-regulated gas streams that contribute to the formation of PM are sulfur and, occasionally, trace amounts of metals. Any metals present in the gas stream are removed during the free water knock-out stage in the condenser at the compressor. The results of source tests on units operating on natural gas show PM levels far below allowable levels (actual source tests are on file with the District). Based on these source test results and the preceding compliance analysis, compliance with applicable PM limits is assured without the need for PM testing.

Compliance with the all the proposed conditions of this streamlining action is as follows:

Sulfur Recovery Unit (S-34-6-4)

- Condition 54 of the requirements for this permit unit assures compliance with this rule.

7. District Rule 4451, Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants

District Rule 4451 limits leaks from valves, pressure relief valves, flanges, threaded connections, and process drains that may result in fugitive emissions of VOC at petroleum refineries and chemical plants. Inspection, repair and maintenance schedules, recordkeeping and administrative requirements, and test methods are specified.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

a. Sulfur Recovery Unit (S-34-6-4)

- Conditions 29 through 44 and 52 of the requirements for this permit unit assure compliance with this rule.

b. Sour Water Stripping (S-34-7-4)

- Conditions 2 through 17 and 25 of the requirements for this permit unit assure compliance with this rule.

c. Wastewater Treatment Unit (S-34-8-4)

- Conditions 15 through 30 and 38 of the requirements for this permit unit assure compliance with this rule.

d. Steam Condensate and Deaeration (S-34-12-2)

- Conditions 2 through 17 and 25 of the requirements for this permit unit assure compliance with this rule.

e. Coke Handling Operation (S-34-20-6
-

- Conditions 8 through 24 of the requirements for this permit unit assure compliance with this rule.

Permit Shield

The applicant is requesting a permit shield from the requirements of District Rule 4451. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4451 and a permit shield is granted from the requirements of this rule. See the following permit conditions:

a. Sulfur Recovery Unit (S-34-6-4)

- A permit shield is being granted for these requirements in condition 56 of the requirements for this permit unit.

b. Sour Water Stripping (S-34-7-4)

- A permit shield is being granted for these requirements in condition 92 of the requirements for this permit unit.

c. Wastewater Treatment Unit (S-34-8-4)

- A permit shield is being granted for these requirements in condition 46 of the requirements for this permit unit.

d. Steam Condensate and Deaeration (S-34-12-2)

- A permit shield is being granted for these requirements in condition 27 of the requirements for this permit unit.

e. Coke Handling Operation (S-34-20-6
-

- A permit shield is being granted for these requirements in condition 26 of the requirements for this permit unit.

8. District Rule 4452, <u>Pump and Compressor Seals at Petroleum Refineries and Chemical Plants</u>

This rule limits leaks from pumps and compressors and associated seals that may result in fugitive emissions of VOC at petroleum refineries and chemical plants. Inspection, repair and maintenance schedules, recordkeeping and administrative, and test methods are specified.

a. Sulfur Recovery Unit (S-34-6-4)

- Conditions 45 through 52 of the requirements for this permit unit assure compliance with this rule.

b. Sour Water Stripping (S-34-7-4)

- Conditions 18 through 25 of the requirements for this permit unit assure compliance with this rule.

c. Wastewater Treatment Unit (S-34-8-4)

- Conditions 31 through 38 of the requirements for this permit unit assure compliance with this rule.

d. Steam Condensate and Deaeration (S-34-12-2)

- Conditions 18 through 25 of the requirements for this permit unit assure compliance with this rule.

<u>Permit Shield</u>

The applicant is requesting a permit shield from the requirements of District Rule 4452. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4452 and a permit

shield is granted from the requirements of this rule. See the following permit conditions:

a. Sulfur Recovery Unit (S-34-6-4)

- A permit shield is being granted for these requirements in condition 57 of the requirements for this permit unit.

b. Sour Water Stripping (S-34-7-4)

- A permit shield is being granted for these requirements in condition 93 of the requirements for this permit unit.

c. Wastewater Treatment Unit (S-34-8-4)

- A permit shield is being granted for these requirements in condition 47 of the requirements for this permit unit.

d. Steam Condensate and Deaeration (S-34-12-2)

- A permit shield is being granted for these requirements in condition 28 of the requirements for this permit unit.

9. District Rule 4454, Refinery Process Unit Turnaround

District Rule 4454 has been submitted to the EPA to replace Kern County Rule 414.3 which is in the SIP. District Rule 4454 is as stringent as Kern County Rule 414.3, as shown on Table 4.

Table 3 - Comparison of District Rule 4454 and Kern County Rule 414.3

REQUIREMENT	District Rule 4454	Kern County Rule 414.3
A person shall not depressurize any vessel containing VOCs unless the process unit turnaround is accomplished by employing one of the following operating procedures: a. The organic vapors shall either be recovered, added to the refinery fuel gas system and combusted; or controlled and piped to an appropriate firebox or incinerated for combustion; or flared, until the pressure within the process vessel is as close to atmospheric pressure as is possible. b. All process vessels shall be depressurized into the control facilities to less than 1020 mm Hg (5 psig) before venting/opening to atmosphere. c. All organic compounds which emerge from a refinery process vessel during the purging of said vessel and which otherwise would be emitted to the atmosphere shall be either directed to a flare or incinerator or shall be used for fuel until such disposition of emissions is not technically feasible or is less safe than atmospheric venting.	✓	✓

REQUIREMENT	District Rule 4454	Kern County Rule 414.3
Any process vessel that has been depressurized to less than 1020 mm Hg (5 psig).	✓	✓

The purpose of this rule is to limit VOC emissions resulting from the purging, repair, cleaning, or otherwise opening or releasing pressure from a refinery vessel during a process unit turnaround.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

a. Sulfur Recovery Unit (S-34-6-4)

- Condition 53 of the requirements for this permit unit assures compliance with this rule.

a. Sour Water Stripping (S-34-7-4)

- Condition 26 of the requirements for this permit unit assures compliance with this rule.

c. Wastewater Treatment Unit (S-34-8-4)

- Condition 39 of the requirements for this permit unit assures compliance with this rule.

10. District Rule 4625 - Wastewater Separators

The purpose of this rule is to limit VOC emissions from wastewater separators requiring a vapor loss control device.

Section of 5.1 of the rule requires specific control measures for waste water separation compartments.

Section 5.2 of the rule requires gauging and sampling devices to be equipped with a cover and lid.

Section 5.3 of the rule requires all wastewater separator forbays to be covered.

Section 5.4 of the rule requires that storage containers for recovered oil be controlled to at least 90% efficiency.

Section 6.1 specified test methods.

a. Wastewater Treating Unit (S-34-8-4)

- Conditions 40 through 44 of the requirements for this permit unit assure compliance with this rule.

11. District Rule 4801, Sulfur Compounds

District Rule 4801 has been submitted to the EPA to replace Kern County Rule 407, which is in the SIP. District Rule 4801 is as stringent as Kern County Rule 407, as shown on Table 5.

Table 2 - Comparison of District Rule 4801 and Kern County Rule 407

REQUIREMENT	District Rule 4801	Kern County 407
a person shall not discharge into the atmosphere sulfur compounds exceeding in concentration at the point of discharge 0.2 percent by volume calculated as sulfur dioxide on a dry basis averaged over 15 consecutive minutes.	✓	✓
EPA Method 8 and ARB Method 1-100 shall be used to determine such emissions.	✓	

This rule limits the emission of sulfur compounds to 0.2% by volume (2000 ppmv) calculated as SO_2, on a dry basis averaged over 15 minutes.

a. Sulfur Recovery Unit (S-34-6-4)

The sulfur recovery unit is required to install and maintain a continuous monitoring system for SO_2. Conditions 22 and 25 of the requirements for this permit unit show compliance with this rule.

12. 40 CFR Part 60, Subpart J, Standards of Performance for Petroleum Refineries

As indicated in Section 60.100 (a), the provisions of this subpart are applicable to the following affected facilities in petroleum refineries: fluid catalytic cracking unit catalyst regenerators, fuel gas combustion devices, and Claus sulfur recovery plants except Claus plants of 20 long tons per day (LTD) or less.

Section 60.104(a)(2)(i) requires that no owner or operator shall discharge or cause the discharge of any gases into the atmosphere from any Claus sulfur recovery plant containing in excess of 250 ppm by volume (dry basis) of SO_2 at 0% excess air for an oxidation control system or a reduction control system followed by incineration.

Section 60.105(a)(5) requires the installation of an instrument for continuously monitoring and recording the concentration (dry basis, 0% excess air) of SO_2 emissions into the atmosphere. The monitor shall include an oxygen monitor for correcting the data for excess air.

Section 60.105(e)(4) specifies that periods of excess emissions are defined as all 12 hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system exceeds 250 ppm (dry basis, 0% excess air.

Section 60.106(f) references Method 6 to determine the SO_2 concentration, Method 15 to determine H_2S concentration, and Method 3 or 3A to determine the oxygen concentration used to correct the emission rate for excess air.

Sections 60.107 (d), (e), and (f) specify further reporting requirements.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

Sulfur Recovery Unit (S-34-6-4)

- Conditions 24 through 28 of the requirements for this permit unit assure compliance with this rule.

13. 40 CFR Part 60, Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

40 CFR Part 60, subpart GGG is the standards of performance for equipment leaks of VOC in petroleum refineries. The provisions of this subpart apply to affected facilities in petroleum refineries. Any affected facility that commences construction or modification after January 4, 1983, is subject to the requirements of this subpart. Section § 60.592(a) of subpart GGG requires that each owner or operator subject to the provisions of this subpart shall comply with the requirements of 40 CFR § 60.482-1 to 60.482-10 which are sections of 40 CFR Part 60, Subpart VV, Standards of performance for equipment leaks of VOC in the synthetic organic chemicals manufacturing industry. These standards limit leaks from pumps, compressors, pressure relief devices, sampling connections systems, open-ended valves or lines, valves, pumps, flanges, and connectors.

40 CFR § 60.592(a) requires the facility to comply with the requirements of §60.482-1 to §60.482-10, which include the following standards:

- §60.482-1: Standards (general)
- §60.482-2: Pumps in light liquid service
- §60.482-3: Compressors
- §60.482-4: Pressure relief devices in gas/vapor service
- §60.482-5: Sampling connection systems
- §60.482-6: Open-ended valves or lines
- §60.482-7: Valves in gas/vapor service and in light liquid service
- §60.482-8: Pumps and valves in heavy liquid service
- §60.482-9: Delay of repair
- §60.482-10: Closed vent systems and control devices

40 CFR § 60.592(b) allows the facility to comply with the alternative requirements of §60.483-1 and §60.483-2.

40 CFR § 60.592(c) allows the facility to apply to the Administrator for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart.

40 CFR § 60.592(d) requires the facility to comply with the provisions of §60.485(c) except as provided in §60.593, Exceptions.

40 CFR § 60.592(e) requires the facility to comply with the provisions of §60.486 and §60.487.

The following requirements will be included on permits with affected facilities subject to the requirements specified in Subpart GGG:

The owner or operator may apply to the Administrator for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in Subpart GGG. In doing so, the owner or operator shall comply with the requirements of 40 CFR 60.484. [40 CFR 60.592(c)]

Each pump in light liquid service (PLLS) shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b), except as provided in 40 CFR 60.482-1(c) and 40 CFR 60.482-2(d), (e), and (f). Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. A leak is detected if an instrument reading of 10,000 ppm or greater is measured or if there are indications of liquids dripping from the pump seal. [40 CFR 60.482-2(a) and (b)]

When a leak is detected for each PLLS, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [40 CFR 60.482-2(c)]

Each PLLS equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of 40 CFR 60.482-2(a) provided the requirements specified in 40 CFR 60.482-2(d)(1) through (6) are met. [40 CFR 60.482(d)]

Any PLLS that is designated, as described in 40 CFR 60.486(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 40 CFR 60.482-2(a), (c), and (d) if the pump meets the requirements specified in 40 CFR 60.482-2(e)(1), (2), and (3). [40 CFR 60.482-2(e)]

If any PLLS is equipped with a closed vent system capable of capturing and transporting leakage from the seal or seals to a control device that complies with the requirements of 40 CFR 60.482-10, it is exempt from the requirements of 40 CFR 60.482-2(a) through (e). [40 CFR 60.482-2(f)]

Any pump in PLLS that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of 40 CFR 60.482-2(a) and 40 CFR 60.482-2(d)(4) through (6) if: 1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-2(a); and 2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in 40 CFR 60.482-2(c) if a leak is detected. [40 CFR 60.482-2(g)]

Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of 40 CFR 60.482-2(a)(2) and (d)(4) and the daily requirements of 40 CFR 60.482-2(d)(5), provided that each pump is visually inspected as often as practicable and at least monthly. [40 CFR 60.482-2(h)]

Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in 40 CFR 60.485(c). [40 CFR 60.482-4(a)]

After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 40 CFR 60.482-9. No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in 40 CFR 60.485(c). [40 CFR 60.482-4(b)]

Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in 40 CFR 60.482-10 is exempted from the requirements of 40 CFR 60.482-4(a) and (b). [40 CFR 60.482-4(c)]

Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the 40 CFR 60.482-4(a) and (b), provided the owner or operator complies with the requirements in 40 CFR 60.482-4(d)(2) of this section. After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in 40 CFR 60.482-9. [40 CFR 60.482-4(d)]

Except for in-situ sampling systems and sampling systems without purges, each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in 40 CFR 60.482-1(c). Each closed-purge, closed-loop, or closed-vent system shall comply with the requirements specified in 40 CFR 60.482-5(b)(1), (2), (3), and (4). [40 CFR 60.482-5(a), (b), and (c)]

Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR 60.482-1(c). The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with this condition at all other times. [40 CFR 60.482-6(a) and (c)]

Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed. [40 CFR 60.482-6(b)]

Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of 40 CFR 60.482-6(a), (b) and (c). [40 CFR 60.482-6(d)]

Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in 40 CFR 60.482-6(a) through (c)

are exempt from the requirements of 40 CFR 60.482-6(a) through (c). [40 CFR 60.482-6(e)]

Each valve in gas/vapor service and in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b) and shall comply with 40 CFR 60.482-7(b) through (e), except as provided in 40 CFR 60.482-7(f), (g), and (h), 40 CFR 60.483-1, 40 CFR 60.483-2, and 40 CFR 60.482-1(c). A leak is detected if an instrument reading of 10,000 ppm or greater is measured. [40 CFR 60.482-7(a) and (b)]

Any valve in gas/vapor service or in light liquid service for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months. [40 CFR 60.482-7(c)]

When a leak is detected for any valve in gas/vapor service or in light liquid service, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 40 CFR 60.482-9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices specified in 40 CFR 60.482-7(e)(1), (2), (3), and (4), where practicable. [40 CFR 60.482-7(d) and (e)]

Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 40 CFR 60.482-7(a) if the valve meets the requirements specified in 40 CFR 60.482-7(f)(1), (2), and (3). [40 CFR 60.482-7(f)]

Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of 40 CFR 60.482-7(a) if: 1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-7(a); and 2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times. [40 CFR 60.482-7(g)]

Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of 40 CFR 60.482-7(a) if: 1) The owner or

operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface; 2) The process unit within which the valve is located either becomes an affected facility through 40 CFR 60.14 or 40 CFR 60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor; and 3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year. [40 CFR 60.482-7(h)]

The owner or operator may elect to comply with the applicable provisions for valves in gas/vapor service and in light liquid service as specified in 40 CFR 60.483-1 and 60.483-2. [40 CFR 60.592(b)

If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the owner or operator shall follow either one of the following procedures: 1) The owner or operator shall monitor the equipment within 5 days by the method specified in 40 CFR 60.485(b) and shall comply with the requirements of 40 CFR 60.482-8(b) through (d); or 2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak. A leak is detected if an instrument reading of 10,000 ppm or greater is measured. [40 CFR 60.482-8(a) and (b)]

When a leak is detected in pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices described under 40 CFR 60.482-7(e). [40 CFR 60.482-8(c) and (d)]

For closed vent systems and control devices, vapor recovery systems shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent. [40 CFR 60.482-10(b)]

For closed vent systems and control devices, enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum

residence time of 0.75 seconds at a minimum temperature of 816 degrees C. [40 CFR 60.482-10(c)]

Flares used to comply with Subpart GGG shall comply with the requirements of 40 CFR 60.18. [40 CFR 60.482-10(d)]

Owners or operators of control devices used to comply with the provisions of Subpart GGG shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. [40 CFR 60.482-10(e)]

Except as provided in 40 CFR 60.482-10(i) through (k), each closed vent system used to comply with the provisions of Subpart GGG shall be inspected according to the procedures and schedule specified in 40 CFR 60.482-10(f)(1) and (f)(2). Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in 40 CFR 60.482-10(h). A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. Repair shall be completed no later than 15 calendar days after the leak is detected. [40 CFR 60.482-10(f) and (g)]

Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown. [40 CFR 60.482-10(h)]

If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2). [40 CFR 60.482-10(i)]

Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(l)(1), as unsafe to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10 (j)(1) and (j)(2). [40 CFR 60.482-10(j)]

Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(l)(2), as difficult to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10(k)(1) through (k)(3). [40 CFR 60.482-10(k)]

The owner or operator shall record the following information: 1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment; 2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment; 3) For each inspection during which a leak is detected, a record of the information specified in 40 CFR 60.486(c); 4) For each inspection conducted in accordance with 40 CFR 60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected; and 5) For each visual inspection conducted in accordance with 40 CFR 60.482-10(f)(1)(ii) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. [40 CFR 60.482-10(l)]

Closed vent systems and control devices used to comply with provisions Subpart GGG shall be operated at all times when emissions may be vented to them. [40 CFR 60.482-10(m)]

In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR 60, Appendix A or other methods and procedures as specified in 40 CFR 60.485, except as provided in 40 CFR 60.8(b). [40 CFR 60.485(a)]

The owner or operator shall determine compliance with the standards in 40 CFR 60.482, 60.483, and 60.484 as follows: Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used: (i) Zero air (less than 10 ppm of hydrocarbon in air); and (ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane. [40 CFR 60.485(b)]

The owner or operator shall determine compliance with the no detectable emission standards in 40 CFR 60.482-2(e), 60.482-3(i), 60.482-4, 60.482-7(f), and 60.482-10(e) as follows: 1) The requirements of 40 CFR 60.485(b) shall apply. 2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance. [40 CFR 60.485(c)]

The owner or operator shall test each piece of equipment unless demonstrated that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used: 1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference as seen in 40 CFR 60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment; 2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid; and 3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, the previous two procedures as specified in 40 CFR 60.485(d)(1) and (2) shall be used to resolve the disagreement. [40 CFR 60.485(d)]

The owner or operator shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply: 1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 °C (1.2 in. H2O at 68 degrees F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference as seen in 40 CFR 60.17) shall be used to determine the vapor pressures; 2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 degrees Celsius is equal to or greater than 20 percent by weight; and 3) The fluid is a liquid at operating conditions. [40 CFR 60.485(e)]

Samples used in conjunction with 40 CFR 60.485(d), (e), and (g) shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare. [40 CFR 60.485(f)]

The owner or operator shall determine compliance with the standards of flares as specified in 40 CFR 60.485(g)(1), (2), (3), (4), (5), (6), and (7). [40 CFR 60.485(g)]

An owner or operator of more than one affected facility subject to the provisions Subpart GGG may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility. [40 CFR 60.486(a)]

When each leak is detected as specified in 40 CFR 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following requirements apply: 1) A weatherproof and readily visible identification, marked with the equipment

identification number, shall be attached to the leaking equipment; 2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR 60.482-7(c) and no leak has been detected during those 2 months; and 3) The identification on equipment except on a valve, may be removed after it has been repaired. [40 CFR 60.486(b)]

When each leak is detected as specified in 40 CFR 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following information shall be recorded in a log and shall be kept for 5 years in a readily accessible location: 1) The instrument and operator identification numbers and the equipment identification number; 2) The date the leak was detected and the dates of each attempt to repair the leak; 3) Repair methods applied in each attempt to repair the leak; 4) ``Above 10,000'' if the maximum instrument reading measured by the methods specified in 40 CFR 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm; 5) ``Repair delayed'' and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak; 6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown; 7) The expected date of successful repair of the leak if a leak is not repaired within 15 days; 8) Dates of process unit shutdown that occur while the equipment is unrepaired; and 9) The date of successful repair of the leak. [40 CFR 60.486(c) and District Rule 2520, 9.4.2]

The following information pertaining to the design requirements for closed vent systems and control devices described in 40 CFR 60.482-10 shall be recorded and kept in a readily accessible location: 1) Detailed schematics, design specifications, and piping and instrumentation diagrams; 2) The dates and descriptions of any changes in the design specifications; 3) A description of the parameter or parameters monitored, as required in 40 CFR 60.482-10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring; 4) Periods when the closed vent systems and control devices required in 40 CFR 60.482-2, 60.482-3, 60.482-4, and 60.482-5 are not operated as designed, including periods when a flare pilot light does not have a flame; and 5) Dates of startups and shutdowns of the closed vent systems and control devices required in 40 CFR 60.482-2, 60.482-3, 60.482-4, and 60.482-5. [40 CFR 60.486(d)]

The following information pertaining to all equipment subject to the requirements in 40 CFR 60.482-1 to 60.482-10 shall be recorded in a log that is kept in a readily accessible location: 1) A list of identification numbers for equipment subject to the requirements of Subpart GGG; 2) (i)

A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 CFR 60.482-2(e), 60.482-3(i) and 60.482-7(f). (ii) The designation of equipment as subject to the requirements of 40 CFR 60.482-2(e), 60.482-3(i) and 60.482-7(f) shall be signed by the owner or operator; 3) A list of equipment identification numbers for pressure relief devices required to comply with §60.482-4; 4) (i) The dates of each compliance test as required in 40 CFR 60.482-2(e), 60.482-3(i), §60.482-4, and 60.482-7(f). (ii) The background level measured during each compliance test. (iii) The maximum instrument reading measured at the equipment during each compliance test; and 5) A list of identification numbers for equipment in vacuum service. [40 CFR 60.486(e)]

The following information pertaining to all valves subject to the requirements of 40 CFR 60.482-7(g) and (h) and to all pumps subject to the requirements of 40 CFR 60.482-2(g) shall be recorded in a log that is kept in a readily accessible location: 1) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump; and 2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve. [40 CFR 60.486(f)]

The following information shall be recorded for valves complying with 40 CFR 60.483-2: 1) A schedule of monitoring; 2) The percent of valves found leaking during each monitoring period. [40 CFR 60.486(g)]

The following information shall be recorded in a log that is kept in a readily accessible location: 1) Design criterion required in 40 CFR 60.482-2(d)(5) and 60.482-3(e)(2) and explanation of the design criterion; and 2) Any changes to this criterion and the reasons for the changes. [40 CFR 60.486(h)]

The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in 40 CFR 60.480(d): 1) An analysis demonstrating the design capacity of the affected facility; 2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol; and 3) An analysis demonstrating that equipment is not in VOC service. [40 CFR 60.486(i)]

Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location. [40 CFR 60.486(j)]

The provisions of 40 CFR 60.7 (b) and (d) do not apply to affected facilities subject to Subpart GGG. [40 CFR 60.486(k)]

All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 CFR 60.486: 1) Process unit identification; 2) For each month during the semiannual reporting period, i) Number of valves for which leaks were detected as described in 40 CFR 60.482-7(b) or 40 CFR 60.483-2, (ii) Number of valves for which leaks were not repaired as required in 40 CFR 60.482-7(d)(1), (iii) Number of pumps for which leaks were detected as described in 40 CFR 60.482-2(b) and (d)(6)(i), (iv) Number of pumps for which leaks were not repaired as required in 40 CFR 60.482-2(c)(1) and (d)(6)(ii), (v) Number of compressors for which leaks were detected as described in 40 CFR 60.482-3(f), (vi) Number of compressors for which leaks were not repaired as required in 40 CFR 60.482-3(g)(1), and (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible; 3) Dates of process unit shutdowns which occurred within the semiannual reporting period; 4) Revisions to items reported in the semiannual report if changes have occurred since the initial report, as required in 40 CFR 60.487 (a) and (b), or subsequent revisions to the initial report. [40 CFR 60.487(c)]

An owner or operator electing to comply with the provisions of 40 CFR 60.483-1 and 60.483-2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions. [40 CFR 60.487(d)]

An owner or operator shall report the results of all performance tests in accordance with 40 CFR 60.8 of the General Provisions. The provisions of 40 CFR 60.8(d) do not apply to affected facilities subject to the provisions of Subpart GGG except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests. [40 CFR 60.487(e)]

The semiannual reporting requirements of 40 CFR 60.487(a), (b), and (c) remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of 40 CFR

60.487(a), (b), and (c), provided that they comply with the requirements established by the State. [40 CFR 60.487(f)]

Compressors are exempt from the standards of Subpart GGG if the owner or operator demonstrates that a compressor is in hydrogen service. Each compressor is presumed not to be in hydrogen service unless an owner or operator demonstrates that the piece of equipment is in hydrogen service. For a piece of equipment to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume. For purposes of determining the percent hydrogen content in the process fluid that is contained in or contacts a compressor, procedures that conform to the general method described in ASTM E-260, E-168, or E-169 shall be used. An owner or operator may use engineering judgment demonstrate that the percent content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume. When an owner or operator and the Administrator do not agree on whether a piece of equipment is in hydrogen service, however, the procedures that conform to the general method described in ASTM E-260, E-168, or E-169 shall be used to resolve the disagreement. If an owner or operator determines that a piece of equipment is in hydrogen service, the determination can be revised only after following the procedures that conform to the general method described in ASTM E-260, E-168, or E-169. [40 CFR 60.593(b)]

Any existing reciprocating compressor that becomes an affected facility under provisions of 40 CFR 60.14 or 40 CFR 60.15 is exempt from 40 CFR 60.482-3 (a), (b), (c), (d), (e), and (h) provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of 40 CFR 60.482-3 (a), (b), (c), (d), (e), and (h). [40 CFR 60.593(c)]

An owner or operator may use the following provision in addition to 40 CFR 60.485(e): Equipment is in light liquid service if the percent evaporated is greater than 10 percent at 150 °C as determined by ASTM Method D86-78, 82, 90, 95, or 96. [40 CFR 60.593(d)]

Pumps in light liquid service and valves in gas/vapor and light liquid service within a procesic compounds of usually high molecular weight that consist of many repeated links, each link being a relatively light and simple molecule. [40 CFR 60.593(e)]

Equipment that is in vacuum service is excluded from the requirements of 40 CFR 60.482-2 to 40 CFR 60.482-10 if it is identified as required in 40 CFR 60.486(e)(5). [40 CFR 60.482-1(d)]

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

a. Sour Water Stripping (S-34-7-4)

- Conditions 27 through 90 of the requirements for this permit unit assure compliance with this rule.

Permit Shield

The applicant is requesting a permit shield from the requirements of 40 CFR 60 Subpart GGG. Compliance with permit conditions in the Operating Permit shall be deemed compliance with 40 CFR 60 Subpart GGG and a permit shield is granted from the requirements of this rule. See the following permit conditions:

Sour Water Stripping (S-34-7-4)

- A permit shield is being granted for these requirements in condition 93 of the requirements for this permit unit.

b. Sulfur Recovery Unit (S-34-6-4)

- Subpart GGG applies to any affected facility that commences construction or modification after January 4, 1983. This unit is not subject to Subpart GGG as it has not been modified or constructed after the applicable date.

c. Wastewater Treating Unit (S-34-8-4)

- Subpart GGG applies to any affected facility that commences construction or modification after January 4, 1983. This unit is not subject to Subpart GGG as it has not been modified or constructed after the applicable date.

14. 40 CFR Part 60, Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems

The provisions of this subpart are standards of performance for VOC emissions from individual drain systems, oil-water separators, and closed

vent systems and control devices in petroleum refinery wastewater systems.

This facility was not constructed, modified, or reconstructed after May 4, 1987 and is therefore not subject to the requirements of this subpart.

BOILERS, HEATERS AND CRUDE UNIT

I. EQUIPMENT DETAIL

The following is a list of equipment included in this category:

Permit Unit	Equipment Description
S-34-9	**29.3 MMBTU/HR NATURAL/REFINERY GAS-FIRED BOILER 81H10 WITH COEN LO BURNER**
S-34-10	29.3 MM BTU/HR NATURAL/REFINERY GAS-FIRED BOILER 81H11 WITH COEN LO-NOX BURNER
S-34-42	98 MMBTU/HR NATURAL/REFINERY GAS FIRED BOILER (BOILER PLATE 84.8 MMBTU/HR)(81-H12) WITH TODD ULTRA LOW NOX BURNER AND FLUE GAS RECIRCULATION

II. GENERAL PERMIT TEMPLATE USAGE

The applicant has chosen not to use any model general permit Templates for the equipment listed above.

III. SCOPE OF EPA AND PUBLIC REVIEW

Equilon Enterprises LLC has not requested to utilize model general permit templates for this type of equipment. All terms and conditions from the proposed permits are subject to EPA and public review.

VI. APPLICABLE REQUIREMENTS ADDRESSED BY GENERAL PERMIT TEMPLATES

Since the applicant has not requested to utilize any model general permit templates, the proposed permit in its entirety is subject to EPA and public review.

VII. APPLICABLE RULES THAT ARE FEDERALLY ENFORCEABLE

District Rule 1070 Inspections (Amended 12/17/92) (Non SIP Replacement for Kern County Rule 107)

District Rule 1081 Source Sampling (Amended December 17, 1992) (Non SIP replacement for Kern County Rule 108.1)

District Rule 2201 New and Modified Stationary Source Review Rule (Amended 4/25/02)

District Rule 2520 Federally Mandated Operating Permits Sections 9.4.2, 9.5.1, 9.5.2, 9.6.1, 9.6.2, 9.8, 9.9.1, 9.9.2, 9.9.3, 9.9.4, 9.9.5, 9.10, 9.13.1, 9.14.1, 9.14.2, 9.17, and 10.0 (Adopted June 15, 1995)

District Rule 4001 New Source Performance Standards (Amended April 14, 1999)

District Rule 4201 Particulate Matter Concentration (Amended December 17, 1992)
(Non SIP replacement for Kern County Rule 404)

District Rule 4301 Fuel Burning Equipment (Amended December 17, 1992)

District Rule 4305 Boilers, Steam Generators, and Process Heaters (Amended December 19, 1996)

District Rule 4451 Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants (Amended 12/17/92)

District Rule 4452 Pump and Compressor Seals at Petroleum Refineries and Chemical Plants (Amended 12/17/1992)

District Rule 4801 Sulfur Compounds (Amended December 17, 1992) (Non SIP replacement for Kern County Rule 407)

Kern County Rule 407 Sulfur Compounds

40 CFR Part 60, Subpart J, Standards of Performance for Petroleum Refineries

VIII. APPLICABLE REQUIREMENTS NOT FEDERALLY ENFORCEABLE

For each Title V source, the District issues a single permit that contains the Federally Enforceable requirements, as well as the District-only requirements. The District-only requirements are not a part of the Title V Operating Permit. The terms and conditions that are part of the facility's Title V permit are designated as "Federally Enforceable Through the Title V Permit".

The facility is subject to the following District rules, which are not currently Federally Enforceable:

A. District Rule 4102 - Nuisance (Amended 12/17/92)

For this class and category of equipment, condition 40 of the requirements for permit unit S-37-0-1.

IX. COMPLIANCE

A. Requirements Addressed by Model General Permit Templates

The applicant has chosen to not use any model general permit templates, therefore no requirements are addressed in this section.

B. Requirements Not Addressed by Model General Permit Templates

1. New and Modified Stationary Source Review Rule (District NSR Rule)

a. 29.3 MMBtu/hr Natural/Refinery Gas-fired Boilers (Permit units S-34-9-4 & -10-4)

This permit unit was subject to the District NSR Rule at the time the applicant applied for Authority to Construct. In accordance with the White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Conditions 1 through 8 were included as conditions 1 through 8 of the requirements for this permit unit.
- Condition 9 of the PTO has been subsumed by condition 9 of the facility wide requirements.

b. *98 MMBtu/hr Natural/Refinery Gas-fired Boiler (Permit S-34-42-4)*

These permit units were not subject to the District NSR Rule at the time the applicant applied for Authority to Construct. In accordance with the White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to

define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO has been included as condition 1 of the requirements for this permit unit.
- Condition 2 of the PTO has been included as condition 2 of the requirements for this permit unit.
- Condition 3 of the PTO has been included as condition 3 of the requirements for this permit unit. The reference of Rule 4001, Subpart Dc has been removed from this condition since this boiler does not fire on coal or fuel oil.
- Conditions 4 through 16 were included as conditions 4 through 16 of the requirements for this permit unit.
- Condition 17 of the PTO has been subsumed by condition 9 of the facility wide requirements.

2. District Rule 1070 - Inspections (as amended December 17,1992)

District Rule 1070 has been submitted to the EPA to replace Kern County Rule 107. The requirements of these rules are compared in the following table, showing that the District Rule 1070 is at least as stringent as Kern County Rule 107.

Comparison of District Rule 1070 and Kern County Rule 107

REQUIREMENT	District Rule 1070	Kern County Rule 107
Inspections shall be made by the enforcement agency for the purpose of obtaining information necessary to determine whether air pollution sources are in compliance with applicable rules and regulations.	✓	✓
The District has authority to require record keeping, to make inspections and to conduct tests of air pollution sources.	✓	✓

Section 4.0 of this rule states District's authority to require record keeping, to make inspections, and to conduct tests of air pollution sources.

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	Kern County Rule 107
S-34-9-4 & -10-4	5
S-42-4	5

3. District Rule 1081 - Source Sampling

District Rule 1081 has been submitted to the EPA to replace Kern County Rule 108.1, which is SIP approved. District Rule 1081 is as stringent as Kern County Rule 108.1, as shown on Table 1.

Comparison of District Rule 1081 and Fresno County Rule 108.1

REQUIREMENTS	District Rule 1081	Kern County Rule 108.1
Upon request of the APCO, the source shall provide info. And records to enable the APCO to determine when a representative sample can be taken.	✓	✓
The facility shall collect, have collected or allow the APCO to collect, a source sample.	✓	✓
The source shall have District personnel present at a source test.	✓	
The applicable test method, if not specified in the rule, shall be conducted in accordance with 40 CFR § 60, Appendix A .	✓	
Test procedures: 1) arithmetic mean of three runs 2) a scheduled source test may not be discontinued solely due to the failure to meet the applicable standard(s), and 3) arithmetic mean of two runs is acceptable if circumstances beyond owner or operator control occurs.	✓	

Sections 3.0, 4.0, 5.0, 6.0, and 7.0 of District Rule 1081 sets forth requirements for sampling facilities, collection of samples, test methods, test procedures, and administrative requirements.

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	Condition(s)
S-34-9-4 & -10-4	11
S-42-4	10-13 & 19

4. District Rule 2520 - Federally Mandated Operating Permits (adopted June 15, 1995)

Section 5.2 requires that permittees submit applications for Title V permit renewal at least six months prior to permit expiration. Condition 36 of the facility wide requirements assures compliance with this requirement.

Section 9.3.2 states that periodic monitoring is required if none is associated with a given emission limit to assure compliance. Monitoring is required for the permit units. The following table shows permit units and conditions requiring periodic monitoring.

Permit Unit	Rule 2520 Section 9.3.2
S-34-9-4 & -10-4	13-17
S-42-4	18, 20, 23-25, 30, & 34

Sections 9.4.1 and 9.4.2 contain requirements to incorporate all applicable record keeping requirements into the Title V permit, specific records of any required monitoring, and the retention of all required monitoring data and support information for five years. The requirements to keep specific monitoring records and retain records for five years are stated in condition 8 and 9 of the facility wide requirements.

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	Rule 2520 Section 9.4.2
S-42-4	21

Section 9.5 contains requirements for the submittal of reports for monitoring results at least every six months and prompt recording of deviations from permitting requirements, including those attributable to upset conditions. All required the responsible official must certify reports. These requirements are stated in conditions 10 and 11 of the facility wide requirements.

5. District Rule 4201 - Particulate Matter Concentration

EPA issued a relative stringency finding, dated August 20, 1996, stating that District Rule 4201 is more stringent than SIP approved Fresno County Rule 404. Section 3.0 of District Rule 4201 requires emissions to be at or below 0.1 grains of particulate matter per dry standard cubic foot of exhaust gas.

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	Rule 4201
S-34-9-4 & -10-4	12
S-42-4	17

6. District Rule 4301 – Fuel Burning Equipment

EPA issued a relative stringency finding, dated August 20, 1996, stating that District Rule 4301 is more stringent than SIP approved Fresno County Rule 408.

Section 5.1 prohibits discharging into the atmosphere combustion contaminants exceeding in concentration at the point of discharge, 0.1 grain per cubic foot of gas calculated to 12% of carbon dioxide at dry standard conditions. This requirement is in the conditions of the following permit units:

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	Rule 4301, 5.1
S-34-9-4 & -10-4	12
S-42-4	17

Section 5.2.1 prohibits the building, erection, installation or expansion of any non-mobile fuel burning equipment unit unless the discharge into the atmosphere of contaminants will not and does not exceed 200 pounds per hour of sulfur compounds, calculated as sulfur dioxide (SO_2).

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	Rule 4301, 5.2.1
S-34-9-4 & -10-4	19
S-42-4	29

Section 5.2.3 prohibits the building, erection, installation or expansion of any non-mobile fuel burning equipment unit unless the discharge into the atmosphere of contaminants will not and does not exceed ten (10) pounds per hour of combustion contaminants as defined in Rule 1020 (Definitions) and derived from the fuel.

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	Rule 4301, 5.2.3
S-34-9-4 & -10-4	12
S-42-4	17

7. District Rule 4305 – Boilers, Steam Generators and Process Heaters

Section 5.1 requires NOx emissions to be limited to the following:

0.052 lb NOx/MMBtu or 40 ppmv (corrected to 3% O2) for liquid fuel fired boilers and steam generators, or

0.036 lb NOx/MMBtu or 30 ppmv (corrected to 3% O2) for gaseous fuel fired boilers and steam generators.

Heat input weighted average of limits for boilers and steam generators fired on combination of fuels.

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	Rule 4305, 5.1
S-34-9-4 & -10-4	N/a
S-34-42-4	2

Section 5.4.2 requires that the owner of any unit equipped with NO_x reduction technology shall either install and maintain continuous emissions monitoring equipment for NO_x, CO and oxygen, or install and maintain APCO-approved alternate monitoring.

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	Rule 4305, 5.4.2
S-34-9-4 & -10-4	N/a
S-34-42-4	4

Section 6.3.1 requires each unit subject to the NO_x requirements to be tested to determine compliance with the applicable requirements not less than once every 12 months. Gaseous fuel fired units demonstrating compliance on two consecutive compliance source tests may defer the following source test for up to thirty-six months.

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	Rule 4305, 6.3.1
S-34-9-4 & -10-4	N/a
S-34-42-4	6 through 9

8. District Rule 4351 – Boilers, Steam Generators, and process Heaters – Reasonably Available Control Technology

Section 5.1 requires NOx emissions to be limited to the following:

	Gaseous Fuel	Distillate Oil	Residual Oil	Crude Oil
Units Except Natural & Induced Draft	95 ppmv or 0.10 lb/MMBtu	115 ppmv or 0.15 lb/MMBtu	165 ppmv or 0.22 lb/MMBtu	165 ppmv or 0.22 lb/MMBtu

Units				
Natural & Induced Draft Units	147 ppmv or 0.18 lb/MMBtu	155 ppmv or 0.20 lb/MMBtu	194 ppmv or 0.25 lb/MMBtu	194 ppmv or 0.25 lb/MMBtu

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	Rule 4351, 5.1
S-34-9-4 & -10-4	N/a
S-34-42-4	2

Section 5.6 requires that owner of any unit that simultaneously fires combinations of different fuels shall install and maintain totalizing mass or volumetric flow meters in each fuel line, and requires the owner of any unit equipped with NO_x control technology to install and maintain appropriate provisions to monitor the operational characteristics of the NO_x control system.

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	Rule 4351, 5.6
S-34-9-4 & -10-4	5 & 8
S-34-42-4	N/a

Section 6.3 requires that units be tested to determine compliance with the applicable emissions requirements not less than once every 12 months in which fuel consumption exceeds 9 billion Btu's. Section 6.2 specifies the source testing methods to be used to demonstrate compliance.

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	Rule 4351, 6.2 and 6.3
S-34-9-4 & -10-4	N/a
S-34-42-4	7, 8, 9, 13, & 26

9. District Rule 4451 – Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants

District Rule 4451 limits leaks from valves, pressure relief valves, flanges, threaded connections, and process drains that may result in fugitive emissions of VOC at petroleum refineries and chemical plants. Inspection, repair and maintenance schedules, recordkeeping and administrative requirements, and test methods are specified.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

Permit Unit	Rule 4451
S-34-9-4 & -10-4	23-38, 46
S-34-42-4	35-50, 58

Permit Shield

The applicant is requesting a permit from the requirements of District Rule 4451. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4451 and a permit shield is granted from the requirements of this rule. See the following permit conditions:

Permit Unit	Rule 4451,Permit Shield
S-34-9-4 & -10-4	47
S-34-42-4	59

10. District Rule 4452 - Pump and Compressor Seals at Petroleum Refineries and Chemical Plants

This rule limits leaks from pumps and compressors and associated seals that may result in fugitive emissions of VOC at petroleum refineries and chemical plants. Inspection, repair and maintenance schedules, recordkeeping and administrative, and test methods are specified.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

Permit Unit	Rule 4452
S-34-9-4 & -10-4	39-45
S-34-42-4	51-57

Permit Shield

The applicant is requesting a permit from the requirements of District Rule 4452. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4452 and a permit shield is granted from the requirements of this rule. See the following permit conditions:

Permit Unit	Rule 4452,Permit Shield
S-34-9-4 & -10-4	48
S-34-42-4	60

11. District Rule 4801, Sulfur Compounds

District Rule 4801 has been submitted to the EPA to replace Kern County Rule 407 which is in the SIP. District Rule 4801 is as stringent as Kern County Rule 407, as shown in the following table.

Comparison of District Rule 4801 and Kern County Rule 407

REQUIREMENT	District Rule 4801	Kern County 407
A person shall not discharge into the atmosphere sulfur compounds exceeding in concentration at the point of discharge 0.2 percent by volume calculated as sulfur dioxide on a dry basis averaged over 15 consecutive minutes.	✓	✓
EPA Method 8 and ARB Method 1-100 shall be used to determine such emissions.	✓	

This rule limits the emission of sulfur compounds to 0.2% by volume (2000 ppmv) calculated as SO_2, on a dry basis averaged over 15 minutes. Operators have the option of complying with this emission limit by using certified fuels, by complying with fuel sulfur content limits, or by source testing the emission unit.

External Combustion Units:

This facility is using non-certified fuels and complies with the emission limit by fuel sulfur content or by source testing the emission unit. The following calculations will determine the sulfur limit for units using natural gas and fuel oil.

Sulfur limit for non-certified gaseous fuels:

Assuming 0% excess air in the exhaust stream corresponds with maximum SO_X emissions concentration (neglecting NO_X and SO_X relative to SO_2 in the exhaust) and that CH_4 represents a typical gaseous fuel, the combustion equation for natural gas is:

$$CH_4 + 2O_2 + 7.56N_2 + YS \rightarrow CO_2 + 2\ H_2O + YSO_2 + 7.56N_2$$

where:

Y = moles of sulfur in the fuel.

Solving the expression for the fraction of SO_2 in the dry exhaust by volume gives:

$$\frac{Y}{1 + 7.56} = 0.002 \Rightarrow Y = 0.01712$$

where:

Y = mole fraction of S per mole of CH_4 combusted
1 = one mole of CO_2
7.56 = number of moles of N_2
0.002 = 0.2% by volume = 2000 ppmv limit per District Rule 4801

Use Y to calculate the weight fraction of S in one mole of CH_4:

$$\frac{(0.01712)(32.06)}{(16.04) + (0.01712)(32.06)} = 0.033 \Rightarrow 3.3\%\ \text{S by weight in the fuel.}$$

where:

32.06 = molecular weight of sulfur (S)
16.04 = molecular weight of methane (CH_4)
0.033 = fraction of S by weight in the fuel

The use of PUC or FERC regulated gas with a maximum sulfur content of 0.017% will assure compliance with this requirement.

The limit determined above for gaseous fuels is 3.3 weight percent sulfur. This value is conservative for field gas, which frequently has a lower heating value and higher exhaust volume flow rate than pure methane. Operators may choose to comply with this fuel sulfur limit by fuel testing using grab sample analysis by GC-

FPD/TCD performed in the laboratory. Fuel sulfur content testing shall be performed weekly except that if compliance has been demonstrated for eight consecutive weeks, then the testing frequency shall be semi-annual. In all cases, operator shall record dates on which the unit is fired on non-certified fuel.

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	District Rule 4801 Kern County Rule 407
S-34-9-4 & -10-4	17
S-34-42-4	27

12. 40 CFR Part 60, Subpart J - Standards of Performance for Petroleum Refineries

This rule incorporates the New Source Performance Standards from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR). All new sources of air pollution and modification of existing sources of air pollution shall comply with the standards, criteria, and requirements set forth therein.

The provisions of this subpart are applicable to petroleum refineries that utilize fuel gas combustion devices, which are equipment, such as process heaters, boilers and flare that combust fuel gas.

Section 60.104(a)(1) requires that any fuel gas combustion device shall not burn any fuel gas hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf (230 mg/dscm).

Section 60.105 requires the installation of a continuous monitoring system to monitor SO_2 emissions into the atmosphere or the concentration of H_2S in the fuel gas being burned.

These requirements are included in the conditions of the following permit units to ensure compliance with this rule.

Permit Unit	40 CFR 60.104 and 105

S-34-9-4 & -10-4	1-2, 9-10, & 20-21
S-34-42-4	1, 3, & 31-34

X. PERMIT CONDITIONS

See attached draft Operating Permits

DELAYED COKING OPERATION

I. EQUIPMENT LISTING

The following table is a list of the equipment included in this category:

Permit Unit #	Equipment Description
S-34-3-11	DELAYED COKING OPERATION INCL DISTILLATION TOWER, (2) 35 MMBTU/HR GAS FIRED HTRS, QUENCH SYSTEM, COKE DRUMS, KNOCKOUT DRUM, COKE DRUM SUMP, STRIPPER TOWERS, COMPRESSORS, MISC. PUMPS, PIPING, & VESSELS, & UTILIZING HTRS H-100 (S-34-1) & H-200 (S-34-2)

II. GENERAL PERMIT TEMPLATE USAGE

The applicant has chosen not to use any model general permit Templates for the equipment listed above.

III. SCOPE OF EPA AND PUBLIC REVIEW

Equilon Enterprises LLC has not requested to utilize model general permit templates for this type of equipment. All terms and conditions from the proposed permits are subject to EPA and public review.

IV. APPLICABLE REQUIREMENTS ADDRESSED BY GENERAL PERMIT TEMPLATES

The applicant has not proposed to utilize any model general permit templates. All applicable requirements are explicitly addressed in the permit outside of the general permit templates.

V. APPLICABLE REQUIREMENTS NOT ADDRESSED BY GENERAL PERMIT TEMPLATES

District New and Modified Stationary Source Review Rule

District Rule 1070, Inspections (amended December 17, 1992) (Non SIP replacement for Kern County Rule 107)

District Rule 1080, Stack Monitoring (Amended December 17, 1992) (Non SIP replacement for Kern County Rule 108)

District Rule 1081, Source Sampling (Amended December 16, 1993) (Non SIP replacement for Kern County Rule 108.1)

District Rule 2520, Sections 9.3.2 and 9.4.2, Federally Mandated Operating Permits (Adopted June 15, 1995)

District Rule 4001, New Source Performance Standards (Amended April 14, 1999)

District Rule 4201, Particulate Matter Concentration (Amended December 17, 1992)

District Rule 4301, Fuel Burning Equipment (Amended December 17, 1992)

District Rule 4305, Boilers, Steam Generators, and Process Heaters (Amended December 19, 1996)

District Rule 4351, Boilers, Steam Generators, and Process Heaters - Reasonably Available Control Technology (Amended October 19, 1995)

District Rule 4451, Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants (Amended December 17, 1992)

District Rule 4452, Pump and Compressors Seals at Petroleum Refineries and Chemical Plants (Amended December 17, 1992)

District Rule 4454, Refinery Process Unit Turnaround (Amended December 17, 1992)

District Rule 4801, Sulfur Compounds (Amended December 17, 1992) (Non SIP replacement for Kern County Rule 407)

40 CFR Part 60, Subpart J, Standards of Performance for Petroleum Refineries

40 CFR Part 60, Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

VI. REQUIREMENTS NOT FEDERALLY ENFORCEABLE

For each Title V source, the District issues a single permit that contains the Federally Enforceable requirements, as well as the District-only requirements. The District-only requirements are not a part of the Title V Operating Permits. The terms and conditions that are part of the facility's Title V permit are designated as Federally Enforceable Through Title V Permit.

District Rule 4102, Nuisance (Amended December 17, 1992)

- For the equipment included in this section, condition 40 of the facility wide requirements, S-34-0-1 is based on this rule and is not Federally Enforceable through Title V.

VII. COMPLIANCE

A. Requirements Addressed by Model General Permit Templates

The applicant is not proposing to use a general permit template for this permit unit. Compliance with all federally applicable requirements will be addressed in the following section of this engineering evaluation.

B. Requirements Not Addressed by Model General Permit Templates

1. New and Modified Stationary Source Review Rule

Delayed Coking Operation (S-34-3-11)

Permit unit S-34-3-11 was subject to the District NSR Rule at the time the applicant applied for an Authority to Construct (ATC) for this unit. ATC S-34-3-15 was issued by the SJVUAPCD on 06/25/02.

- Condition 1 of the ATC has been included as condition 1 of the requirements for this permit unit.
- Condition 2 of the ATC has been included as condition 2 of the requirements for this permit unit.
- Condition 3 of the ATC has been included as condition 3 of the requirements for this permit unit.
- Condition 4 of the ATC has been included as condition 22 of the facility wide permit, S-34-0-1.
- Condition 5 of the ATC has been included as condition 4 of the requirements for this permit unit.
- Condition 6 of the ATC has been included as condition 5 of the requirements for this permit unit.
- Condition 7 of the ATC has been included as condition 6 of the requirements for this permit unit.
- Condition 8 of the ATC has been replaced with specific conditions in the requirements of the permit unit.
- Condition 9 of the ATC has been replaced with specific conditions in the requirements of the permit unit.
- Condition 10 of the ATC has been replaced with specific conditions in the requirements of the permit unit.
- Condition 11 of the ATC has been included as condition 7 of the requirements for this permit unit.

- Condition 12 of the ATC has been included as condition 8 of the requirements for this permit unit.
- Condition 13 of the ATC has been included as condition 9 of the requirements for this permit unit.
- Condition 14 of the ATC has been included as condition 10 of the requirements for this permit unit.
- Condition 15 of the ATC has been included as condition 11 of the requirements for this permit unit.
- Condition 16 of the ATC has been included in conditions 146 and 147 of the requirements for this permit unit.
- Condition 17 of the ATC has been included as condition 12 of the requirements for this permit unit.
- Condition 18 of the ATC has been included as condition 13 of the requirements for this permit unit.
- Condition 19 of the ATC has been included as condition 14 of the requirements for this permit unit. The language has been revised to remain consistent with the language found in Rules 4305 and 4351.
- Condition 20 of the ATC has been included as condition 26 of the requirements for this permit unit.
- Condition 21 of the ATC has been included as condition 27 of the requirements for this permit unit.
- Condition 22 of the ATC has been included as condition 28 of the requirements for this permit unit.
- Condition 23 of the ATC has been included as condition 29 of the requirements for this permit unit.
- Condition 24 of the ATC has been included as condition 30 of the requirements for this permit unit.
- Condition 25 of the ATC has been included as condition 31 of the requirements for this permit unit.
- Condition 26 of the ATC has been included as condition 32 of the requirements for this permit unit.
- Condition 27 of the ATC has been included as condition 33 of the requirements for this permit unit.
- Condition 28 of the ATC has been included as condition 15 of the requirements for this permit unit.
- Condition 29 of the ATC has been included as condition 16 of the requirements for this permit unit.
- Condition 30 of the ATC has been included as condition 17 of the requirements for this permit unit.
- Condition 31 of the ATC has been included as condition 18 of the requirements for this permit unit.
- Condition 32 of the ATC has been included as condition 19 of the requirements for this permit unit.

2. District Rule 1070, Inspections - (Non SIP replacement for Kern County Rule 107)

District Rule 1070 has been submitted to the EPA to replace Kern County APCD Rule 107. The requirements of these rules are compared below in the table below, showing that the District Rule is at least as stringent as the County Rule.

REQUIREMENTS	District Rule 1070	Kern County Rule 107
Inspections shall be made by the enforcement agency for the purpose of obtaining information necessary to determine whether air pollution sources are in compliance with applicable rules and regulations.	✓	✓
The District has authority to require record keeping, to make inspections and to conduct tests of air pollution sources.	✓	✓

Section 4.0 of this rule states district's authority to require record keeping, to make inspections, and to conduct tests of air pollution sources.

Delayed Coking Operation (S-34-3-11)

- Conditions 18 and 33 of the requirements for this permit unit assure compliance with this rule.

3. District Rule 1080, Inspections - (Non SIP replacement for Kern County Rule 108)

District Rule 1070 has been submitted to the EPA to replace Kern County APCD Rule 107. The requirements of these rules are compared below in the table below, showing that the District Rule is at least as stringent as the County Rule.

REQUIREMENTS	District Rule 1080	Kern County Rule 108
Continuous emission monitors shall be capable of monitoring NOx levels to within 20% with confidence levels of 95%.		
Continuous NOx monitors shall meet the applicable performance specifications in 40 CFR 51, App. P and 40 CFR 60, App. B, or equivalent as established by mutual agreement of the District, ARB, and EPA.	✓	✓
Breakdowns must be reported within 48 hours, unless the source can prove that a longer period was necessary.	✓ (8 hrs)	✓

REQUIREMENTS	District Rule 1080	Kern County Rule 108
The District must be notified within 24 hours prior to shutdown of monitoring equipment for maintenance	✓	✓
Violations of any emissions standards of these rules, as shown by the stack monitoring equip., must be reported within 96 hours.	✓	✓
Quarterly reports are required.	✓	✓
Records from the monitoring equipment shall be kept for at least two years.	✓	✓

Section 6.5 requires that a continuous emissions monitoring systems (CEMS) be installed at the request of the District and meet certain performance specifications.

Section 7.2 requires that CEMS data be reduced following specified procedures.

Section 7.3 requires records be maintained for at least two years and contain the occurrence and duration of any start-up, shut-down or malfunction, performance testing, calibrations and checks, adjustments, maintenance of CEMS, and emissions measurements.

Section 8.0 requires a quarterly report be submitted to the District.

Section 9.0 requires the owner or operator to report to the APCO the occurrence of any violation of emissions standards within 96 hours.

Section 10 requires that the APCO be notified no later than eight hours after the detection of a breakdown of the CEMS. It also requires the operator to inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event.

Delayed Coking Operation (S-34-3-11)

- Condition 21 through 26 of the requirements for this permit unit assures compliance with this rule.

4. District Rule 1081, Source Sampling

District Rule 1081 has been submitted to the EPA to replace Kern County Rule 108.1, which is in the SIP. District Rule 1081 is as stringent as Kern County Rule 108.1, as shown on the table below:

REQUIREMENTS	1081 District	108.1 Kern
Upon request of the APCO, the source shall provide info. and records to enable the APCO to determine when a representative sample can be taken.	✓	✓
The facility shall collect, have collected or allow the APCO to collect, a source sample	✓	✓
The source shall have District personnel present at a source test	✓	
The applicable test method, if not specified in the rule, shall be conducted in accordance with 40 CFR § 60, Appendix A	✓	
Test procedures: 1) arithmetic mean of three runs, 2) a scheduled source test may not be discontinued solely due to the failure to meet the applicable standard(s), and 3) arithmetic mean of two runs is acceptable if circumstances beyond owner or operator control occurs.	✓	

Sections 3.0, 4.0, 5.0, 6.0, and 7.0 of District Rule 1081 set forth requirements for sampling facilities, collection of samples, test methods, test procedures, and administrative requirements, respectively.

Delayed Coking Operation (S-34-3-11)

- Conditions 13, 30 through 34 and 42 of the requirements for this permit unit assure compliance with this rule.

5. District Rule 2520, Sections 9.3.2 and 9.4.2, Federally Mandated Operating Permits

Section 9.3.2

This section requires that periodic monitoring and/or recordkeeping be performed if none is associated with a given emission limit to ensure compliance and will be supported by the following conditions in the requirements of these permit units.

Delayed Coking Operation (S-34-3-11)

- Conditions 12, 26 through 29, 35 through 41, 43, 45 through 492, and 54 of the requirements for this permit unit assure compliance with this rule.

Section 9.4.2

This section requires retention of records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, or report and will be supported by the following conditions in the requirements of these permit units.

Delayed Coking Operation (S-34-3-11)

- Condition 19 and 148 of the requirements for this permit unit assures compliance with this rule.

6. District Rule 4001, New Source Performance Standards

This rule incorporates the New Source Performance Standards from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR). All new sources of air pollution and modification of existing sources of air pollution shall comply with the standards, criteria, and requirements set forth therein.

Delayed Coking Operation (S-34-3-11)

- Condition 4 of the requirements for this permit unit assures compliance with this rule.

7. District Rules 4201, 3.1, Particulate Matter Concentration and 4301, 5.1 & 5.2.3, Fuel Burning Equipment

EPA issued a relative stringency finding, dated August 20, 1996, stating that District Rule 4201 is more stringent than SIP approved Kern County Rule 404. Section 3.0 of District Rule 4201 requires emissions to be at or below 0.1 grains of particulate matter per dry standard cubic foot of exhaust gas.

District Rules 4201, 3.1 and 4301, 5.1 & 5.2.3, contain limits on emissions of particulate matter (PM). The following analysis shows that the proposed PM requirements are as stringent as District Rules 4301 and 4201. Streamlining procedures, as documented in the following pages, are used to substitute the proposed set of requirements for the otherwise applicable requirements.

Step 1. Side-by-side Comparison of Applicable Requirements:

CITATION:	District Rule 4201	District Rule 4301	Proposed Requirements
WORK PRACTICE STANDARDS:	None	None	None
EMISSION LIMIT:	0.1 grain/cf, at dry standard conditions [4201, 3.1]	0.1 grain/cf, calculated to 12% CO_2 at dry standard conditions [4301, 5.1] 10 lb/hr [4301, 5.2.3]	0.1 grain/dscf [4201, 3.1] 0.1 grain/cf, calculated to 12% CO_2 at dry standard conditions [4301, 5.1] 10 lb/hr [4301, 5.2.3]
MONITORING:	None	None	source testing when firing on residual oil (including crude) within 60 days of said firing [2520, 9.3.2]
RECORD KEEPING:	None	None	record daily amount of all fuels combusted, the dates on which firing on any fuel other than certified gaseous or diesel fuel has occurred, as well as the type of non-certified fuel fired [2520, 9.3.2]
REPORTING:	None	None	None
TEST METHODS:	Particulate matter concentration - EPA Method 5 [4201, 4.1] Stack gas velocity - EPA Method 2 [4201, 4.2] Stack gas moisture - EPA Method 4 [4201, 4.3]	Particulate matter concentration - EPA Method 5 [4301, 5.1] Stack gas velocity - EPA Method 2 [4301, 5.5] Stack gas moisture - EPA Method 4 [4301, 5.6]	Particulate matter concentration - EPA Method 5 (note EPA Methods 2 and 4 are referenced within Method 5) [4301, 5.1 and 4201, 4.1]

Step 2. Select most stringent emission limit or performance standard:

The proposed PM emission limits of:

0.1 grain/dscf of gas calculated to 12% carbon dioxide, and

0.1 grain/dscf of gas, and

10 lb/hr

are at least as stringent as those imposed by District Rules 4201 and 4301, as demonstrated below:

Compliance with PM Limit - District Rule 4301, 5.1:

This rule requires PM emissions to be limited to the following:

0.1 grain per cubic foot of gas calculated to 12% carbon dioxide at dry standard conditions and

10 lb/hr

The proposed conditions include these requirements and are therefore at least as stringent as District Rule 4301.

Compliance with PM Limit - District Rule 4201:

This rule requires PM emissions to be limited to the following:

0.1 grain per cubic foot of gas at dry standard conditions

The excess air in the exhaust ranges from 0 to 4%, when calculated at 12% carbon dioxide (see Attachment C). Since maximum particulate emissions occur at 0% excess air, which may occur at operating CO_2 levels and dry standard conditions, the above limit is also included as a condition of this template. The proposed limits are at least as stringent as the requirements of this rule.

Step 3. Conditions ensuring compliance with applicable requirements

An excess air concentration of 0% in the exhaust results in the maximum particulate matter concentration for any given emission rate. Therefore, the following calculations use an uncorrected F factor to represent worst-case emissions. Calculations determining the excess air concentrations for 12% CO_2 are shown in Attachment C.

GASEOUS FUEL FIRED UNITS

The following calculations, using AP42 emission factors for natural gas, demonstrate that the emission of PM during the firing of gaseous fuels complies with the limits of these rules.

$$\left(\frac{13.7\ lb\ PM}{10^6\ cf}\right)\left(\frac{1\ scf}{900\ Btu}\right)\left(\frac{200\ MMBtu}{hr}\right)=\left(\frac{3.0\ lb\ PM}{hr}\right)<\left(\frac{10\ lb\ PM}{hr}\right)$$

$$\left(\frac{13.7\ lb\ \mathrm{PM}}{10^6\ ft^3}\right)\left(\frac{1\ scf}{900\ Btu}\right)\left(\frac{1\ MMBtu}{8710\ dscf}\right)\left(\frac{7000\ grain}{1\ lb}\right)\ =\ \left(\frac{0.01\ grain}{dscf}\right)<\left(\frac{0.1\ grain}{dscf}\right)$$

where:

$13.7 \frac{lb\ PM}{10^6\ cf}$ = sum of filterable and condensable uncontrolled emission factors for natural gas-fired boilers (AP42, Table 1.4-2)

$\frac{900\ Btu}{1\ scf}$ = the minimum expected higher heating value of natural gas (AP42, Table 1.4.1)

$\frac{200 MMBtu}{hr}$ = maximum heat input for gas fired unit in this facility

$\frac{8710\ dscf}{1\ MMBtu}$ = F factor, Fd, for natural gas at 0% O_2 (40CFR60, App. A, Table 19-1)

$\frac{10{,}610\ wscf}{1\ MMBtu}$ = F factor, Fw, for natural gas at 0% O_2 (40CFR60, App. A, Table 19-1)

$\frac{7000\ grain}{1\ lb}$ = conversion factor (AP42, Appendix A)

The only constituents found in non-regulated gas streams that contribute to the formation of PM are sulfur and, occasionally, trace amounts of metals. Any metals present in the gas stream are removed during the free water knock-out stage in the condenser at the compressor. The results of source tests on units operating on natural gas show PM levels far below allowable levels (actual source tests are on file with the District). Based on these source test results and the preceding compliance analysis, compliance with applicable PM limits is assured without the need for PM testing.

Compliance with the all the proposed conditions of this streamlining action is as follows:

Delayed Coking Operation (S-34-3-11)

- Condition 44 of the requirements for this permit unit assures compliance with this rule.

Step 4. Certify compliance

By complying with the conditions in the requirements for these permit units, the applicant is certifying compliance with all applicable requirements.

Step 5. Compliance schedule for new monitoring requirements

None

Step 6. Permit Shield

The applicant is not requesting a permit shield for any requirements; therefore none will be granted within the requirements of this permit unit.

8. District Rule 4301, Section 5.2.1, Fuel Burning Equipment

Section 5.2.1 of District Rule 4301 limits the emission of SO_X to 200 lb/hr (calculated as SO_2). Assuming that all sulfur compounds are converted to SO_2, this is equivalent to 100 lb of elemental sulfur per hour (see Attachment D). Operators have the option of complying with this emission limit by using certified fuels, by complying with fuel sulfur content limits, or by source testing the emission unit in combination with fuel analysis.

The following calculations, using AP-42 emission factors for natural gas and for diesel fuel oil, demonstrate that units using certified fuels are expected to comply with the limit of this rule.

Natural Gas Fired:

$$\frac{\left(100\frac{lb\,S}{hr}\right)\left(\frac{453.59\,g\,CH_4}{lb\,CH_4}\right)\left(\frac{23.7\,L\,CH_4}{gmol\,CH_4}\right)\left(\frac{0.00105\,MMBtu}{scf\;CH_4}\right)}{\left(\frac{16.04\,g\,CH_4}{gmol\,CH_4}\right)\left(\frac{28.317\,L\,CH_4}{scf\;CH_4}\right)\left(200\frac{MMBtu}{hr}\right)}=\left(\frac{0.012\,lb\,S}{lb\,CH_4}\right)\approx 3\%$$

where:

$100\frac{lb\,S}{hr}=200\frac{lb\,SO_X}{hr}=$ District Rule 4301, 5.2.1 emission limit (see Attachment D)

$\frac{453.59\,g\,CH_4}{lb\,CH_4}=$ conversion factor (AP-42, Appendix A)

$23.7\frac{L}{gmol}=\frac{(288.7K)\left(22.4\frac{L}{gmol}\right)}{273.15K}=$ molar volume of an ideal gas corrected to standard conditions (60^{o} F, 14.7 psi) per Charles' Law

$\frac{0.00105\,MMBtu}{scf\;CH_4}=$ heating value for natural gas (AP-42, Appendix A)

$\frac{16.04\,g\,CH_4}{gmol\,CH_4}=$ molecular weight of gaseous fuel

$\frac{28.317\ L\ CH_4}{scf\ CH_4}$ = conversion factor (AP-42, Appendix A)

$200\ \frac{MMBtu}{hr}$ = maximum heat input of largest gas fired unit in this facility

The equation shows that using the emission rate limit of 200 lb SO_X/hr corresponds to natural gas with a 3% by weight sulfur content. Utilizing PUC regulated natural gas which has a maximum sulfur content of 0.017% [Public Utilities Code General Order 58-B] equates to an emission rate of less than the 200 lb SO_x/hr limit. Units using PUC or FERC regulated natural gas will comply with this requirement.

Using Non-certified Fuels:

This facility is using non-certified fuels. Therefore, the operator shall demonstrate compliance by fuel analysis of non-certified fuels, and compliance shall be determined by multiplying the sulfur content of the fuel in lb/MMBtu by the maximum hourly heat input rating of the unit in MMBtu/hr, and comparing the result to the 100 lb sulfur per hour limit. Alternatively the operator may choose to source test to determine control efficiency and perform routine fuel analysis to determine uncontrolled emissions.

Compliance with applicable requirements

Compliance with this requirement is assured by the following conditions in the requirements for these permit units.

Delayed Coking Operation (S-34-3-11)

- Condition 45 of the requirements for this permit unit assures compliance with this rule.

9. District Rule 4301, Section 5.2.2, Fuel Burning Equipment

This rule limits the emission of NO_x to 140 lb/hr (calculated as NO_2). The following analysis demonstrates that compliance is expected:

GAS FIRED:

$$\left(\frac{140\ \frac{lb \cdot NO_X}{10^6 \cdot ft^3}}{0.00105\ \frac{MMBtu}{ft^3}}\right)\left(100\ \frac{MMBtu}{hr}\right) = 13.3\ \frac{lb \cdot NO_X}{hr}$$

RESIDUAL FUEL OIL FIRED:

$$\left(\frac{55\frac{lb\cdot NO_X}{10^3\cdot gal}}{0.150\frac{MMBtu}{gal}}\right)\left(45\frac{MMBtu}{hr}\right)=16.5\frac{lb\cdot NO_X}{hr}$$

where:

$55\frac{lb\cdot NO_X}{10^3\cdot gal}$ = uncontrolled NO_x emission factor for residual oil fired boilers (AP42, Table 1.3-2)

$0.150\frac{MMBtu}{gal}=150{,}000\frac{Btu}{gal}$ = heating value for residual oil (AP42, Appendix A)

$140\frac{lb\cdot NO_X}{10^6\cdot ft^3}$ = uncontrolled NO_x emission factor for gas fired boilers (AP42, Table 1.4-2)

$0.00105\frac{MMBtu}{ft^3}=1050\frac{Btu}{ft^3}$ = natural gas heating value (AP42, Table 1.4-2)

The preceding calculations clearly demonstrate that NO_X emissions, for even the largest units firing gaseous in this facility, are well below the limit of 140 lb/hr from District Rule 4301. NO_X emissions are approximately 1/10 or less of that allowed by Rule 4301. For gaseous, compliance is assure by CEMS for NO_X.

Delayed Coking Operation (S-34-3-11)

Condition 5 of the requirements for this permit unit assures compliance with this rule.

10. District Rule 4305, Boilers, Steam Generators, and Process Heaters (Amended December 19, 1996) and District Rule 4351, Boilers, Steam Generators, and Process Heaters - Reasonably Available Control Technology (Amended October 19, 1995)

Delayed Coking Operation (S-34-3-11)

Conditions 12, 14, 26 through 29, 35 through 38, 49, and 51 of the requirements for this permit unit assure compliance with this rule.

11. District Rule 4451, Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants

District Rule 4451 limits leaks from valves, pressure relief valves, flanges, threaded connections, and process drains that may result in fugitive emissions of VOC at petroleum refineries and chemical plants. Inspection, repair and maintenance schedules, recordkeeping and administrative requirements, and test methods are specified.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

f. Delayed Coking Operation (S-34-3-11)

a. Conditions 53 through 68, and 76 of the requirements for this permit unit assure compliance with this rule.

Permit Shield

The applicant is requesting a permit shield from the requirements of District Rule 4451. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4451 and a permit shield is granted from the requirements of this rule. See the following permit conditions

***a.* Delayed Coking Operation (S-34-3-11)**

- A permit shield is being granted for these requirements in condition 149 of the requirements for this permit unit.

12. District Rule 4452, Pump and Compressor Seals at Petroleum Refineries and Chemical Plants

This rule limits leaks from pumps and compressors and associated seals that may result in fugitive emissions of VOC at petroleum refineries and chemical plants. Inspection, repair and maintenance schedules, recordkeeping and administrative, and test methods are specified.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

a. Delayed Coking Operation (S-34-3-11)

b. Conditions 69 through 76 of the requirements for this permit unit assure compliance with this rule.

Permit Shield

The applicant is requesting a permit shield from the requirements of District Rule 4452. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4452 and a permit shield is granted from the requirements of this rule. See the following permit conditions

a. Delayed Coking Operation (S-34-3-11)

- A permit shield is being granted for these requirements in condition 150 of the requirements for this permit unit.

13. District Rule 4454, Refinery Process Unit Turnaround

District Rule 4454 has been submitted to the EPA to replace Kern County Rule 414.3 which is in the SIP. District Rule 4454 is as stringent as Kern County Rule 414.3, as shown on Table 4.

Table 3 - Comparison of District Rule 4454 and Kern County Rule 414.3

REQUIREMENT	District Rule 4454	Kern County Rule 414.3
A person shall not depressurize any vessel containing VOCs unless the process unit turnaround is accomplished by employing one of the following operating procedures: a. The organic vapors shall either be recovered, added to the refinery fuel gas system and combusted; or controlled and piped to an appropriate firebox or incinerated for combustion; or flared, until the pressure within the process vessel is as close to atmospheric pressure as is possible. b. All process vessels shall be depressurized into the control facilities to less than 1020 mm Hg (5 psig) before venting/opening to atmosphere. c. All organic compounds which emerge from a refinery process vessel during the purging of said vessel and which otherwise would be emitted to the atmosphere shall be either directed to a flare or incinerator or shall be used for fuel until such disposition of emissions is not technically feasible or is less safe than atmospheric venting.	✓	✓
Any process vessel that has been depressurized to less than 1020 mm Hg (5 psig).	✓	✓

The purpose of this rule is to limit VOC emissions resulting from the purging, repair, cleaning, or otherwise opening or releasing pressure from a refinery vessel during a process unit turnaround.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

Delayed Coking Operation (S-34-3-11)

Condition 77 of the requirements for this permit unit assures compliance with this rule.

14. District Rule 4801, Sulfur Compounds

District Rule 4801 has been submitted to the EPA to replace Kern County Rule 407 which is in the SIP. District Rule 4801 is as stringent as Kern County Rule 407, as shown on Table 5.

Table 4 - Comparison of District Rule 4801 and Kern County Rule 407

REQUIREMENTS	District Rule 4801	Kern County 407
A person shall not discharge into the atmosphere sulfur compounds exceeding in concentration at the point of discharge 0.2 percent by volume calculated as sulfur dioxide on a dry basis averaged over 15 consecutive minutes.	✓	✓
EPA Method 8 and ARB Method 1-100 shall be used to determine such emissions.	✓	

This rule limits the emission of sulfur compounds to 0.2% by volume (2000 ppmv) calculated as SO_2, on a dry basis averaged over 15 minutes. Operators have the option of complying with this emission limit by using certified fuels, by complying with fuel sulfur content limits, or by source testing the emission unit.

External Combustion Units:

This facility is using non-certified fuels and complies with the emission limit by fuel sulfur content or by source testing the emission unit. The following calculations will determine the sulfur limit for units using natural gas and fuel oil.

Sulfur limit for non-certified gaseous fuels:

Assuming 0% excess air in the exhaust stream corresponds with maximum SO_X emissions concentration (neglecting NO_X and SO_X relative to SO_2 in the exhaust) and that CH_4 represents a typical gaseous fuel, the combustion equation for natural gas is:

$$CH_4 + 2O_2 + 7.56N_2 + YS \rightarrow CO_2 + 2\ H_2O + YSO_2 + 7.56N_2$$

where:

Y = moles of sulfur in the fuel.

Solving the expression for the fraction of SO_2 in the dry exhaust by volume gives:

$$\frac{Y}{1 + 7.56} = 0.002 \Rightarrow Y = 0.01712$$

where:

Y = mole fraction of S per mole of CH_4 combusted
1 = one mole of CO_2
7.56 = number of moles of N_2
0.002 = 0.2% by volume = 2000 ppmv limit per District Rule 4801

Use Y to calculate the weight fraction of S in one mole of CH_4:

$$\frac{(0.01712)(32.06)}{(16.04) + (0.01712)(32.06)} = 0.033 \Rightarrow 3.3\%$$ S by weight in the fuel.

where:

32.06 = molecular weight of sulfur (S)
16.04 = molecular weight of methane (CH_4)
0.033 = fraction of S by weight in the fuel

The use of PUC[3] or FERC[4] regulated gas with a maximum sulfur content of 0.017% will assure compliance with this requirement.

The limit determined above for gaseous fuels is 3.3 weight percent sulfur. This value is conservative for field gas, which frequently has a lower heating value and higher exhaust volume flow rate than pure methane. Operators may choose to comply with this fuel sulfur limit by fuel testing using grab sample analysis by GC-FPD/TCD performed in the laboratory. Fuel sulfur content testing shall be performed weekly except that if compliance has been demonstrated for eight consecutive weeks, then the testing frequency shall be semi-annual. In all cases, operator shall record dates on which the unit is fired on non-certified fuel.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

[3] Public Utilities Code General Order 58-B.(see Attachment B)
[4] FERC regulated gas has a lower maximum sulfur content (~0.0026%, see Attachment B)

Delayed Coking Operation (S-34-3-11)

- Condition 50 of the requirements for this permit unit assures compliance with this rule.

15. 40 CFR Part 60, Subpart J, Standards of Performance for Petroleum Refineries

As indicated in Section 60.100 (a), the provisions of this subpart are applicable to the following affected facilities in petroleum refineries: fluid catalytic cracking unit catalyst regenerators, fuel gas combustion devices, and Claus sulfur recovery plants except Claus plants of 20 long tons per day (LTD) or less.

Section 60.104(a)(1) requires that no owner or operator shall burn in any fuel gas combustion device any fuel that contains hydrogen sulfide (H2S) in excess of 230 mg/dscm (0.10 gr/dscf). The combustion in a flare or process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions.

Section 60.105(a)(3) requires the installation of an instrument for continuously monitoring and recording the concentration (dry basis, 0% excess air) of SO_2 emissions into the atmosphere. The monitor shall include an oxygen monitor for correcting the data for excess air.

Section 60.105(e)(3) specifies that periods of excess emissions are defined as all rolling 3-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system exceeds 20 ppm (dry basis, 0% excess air) or all rolling 3-hour periods during which the average concentration of H2S as measured by the H2S continuous monitoring system exceeds 230 mg/dscm (0.1 gr/dscf).

Section 60.106(e) references Methods 11, 15, 15A, or 16 to determine compliance with the sulfur standards for fuel combustion devices.

Sections 60.107 (d), (e), and (f) specify further reporting requirements.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

Delayed Coking Operation (S-34-3-11)

- Conditions 142 through 147 of the requirements for this permit unit assure compliance with this rule.

16. 40 CFR Part 60, Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

40 CFR Part 60, subpart GGG is the standards of performance for equipment leaks of VOC in petroleum refineries. The provisions of this subpart apply to affected facilities in petroleum refineries. Any affected facility that commences construction or modification after January 4, 1983, is subject to the requirements of this subpart. Section § 60.592(a) of subpart GGG requires that each owner or operator subject to the provisions of this subpart shall comply with the requirements of 40 CFR § 60.482-1 to 60.482-10 which are sections of 40 CFR Part 60, Subpart VV, Standards of performance for equipment leaks of VOC in the synthetic organic chemicals manufacturing industry. These standards limit leaks from pumps, compressors, pressure relief devices, sampling connections systems, open-ended valves or lines, valves, pumps, flanges, and connectors.

40 CFR § 60.592(a) requires the facility to comply with the requirements of §60.482-1 to §60.482-10, which include the following standards:

- §60.482-1: Standards (general)
- §60.482-2: Pumps in light liquid service
- §60.482-3: Compressors
- §60.482-4: Pressure relief devices in gas/vapor service
- §60.482-5: Sampling connection systems
- §60.482-6: Open-ended valves or lines
- §60.482-7: Valves in gas/vapor service and in light liquid service
- §60.482-8: Pumps and valves in heavy liquid service
- §60.482-9: Delay of repair
- §60.482-10: Closed vent systems and control devices

40 CFR § 60.592(b) allows the facility to comply with the alternative requirements of §60.483-1 and §60.483-2.

40 CFR § 60.592(c) allows the facility to apply to the Administrator for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart.

40 CFR § 60.592(d) requires the facility to comply with the provisions of §60.485(c) except as provided in §60.593, Exceptions.

40 CFR § 60.592(e) requires the facility to comply with the provisions of §60.486 and §60.487.

The following requirements will be included on permits with affected facilities subject to the requirements specified in Subpart GGG:

The owner or operator may apply to the Administrator for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in Subpart GGG. In doing so, the owner or operator shall comply with the requirements of 40 CFR 60.484. [40 CFR 60.592(c)]

Each pump in light liquid service (PLLS) shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b), except as provided in 40 CFR 60.482-1(c) and 40 CFR 60.482-2(d), (e), and (f). Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. A leak is detected if an instrument reading of 10,000 ppm or greater is measured or if there are indications of liquids dripping from the pump seal. [40 CFR 60.482-2(a) and (b)]

When a leak is detected for each PLLS, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [40 CFR 60.482-2(c)]

Each PLLS equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of 40 CFR 60.482-2(a) provided the requirements specified in 40 CFR 60.482-2(d)(1) through (6) are met. [40 CFR 60.482(d)]

Any PLLS that is designated, as described in 40 CFR 60.486(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 40 CFR 60.482-2(a), (c), and (d) if the pump meets the requirements specified in 40 CFR 60.482-2(e)(1), (2), and (3). [40 CFR 60.482-2(e)]

If any PLLS is equipped with a closed vent system capable of capturing and transporting leakage from the seal or seals to a control device that complies with the requirements of 40 CFR 60.482-10, it is exempt from the requirements of 40 CFR 60.482-2(a) through (e). [40 CFR 60.482-2(f)]

Any pump in PLLS that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of 40 CFR 60.482-2(a) and 40 CFR 60.482-2(d)(4) through (6) if: 1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would

be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-2(a); and 2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in 40 CFR 60.482-2(c) if a leak is detected. [40 CFR 60.482-2(g)]

Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of 40 CFR 60.482-2(a)(2) and (d)(4) and the daily requirements of 40 CFR 60.482-2(d)(5), provided that each pump is visually inspected as often as practicable and at least monthly. [40 CFR 60.482-2(h)]

Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in 40 CFR 60.485(c). [40 CFR 60.482-4(a)]

After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 40 CFR 60.482-9. No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in 40 CFR 60.485(c). [40 CFR 60.482-4(b)]

Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in 40 CFR 60.482-10 is exempted from the requirements of 40 CFR 60.482-4(a) and (b). [40 CFR 60.482-4(c)]

Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the 40 CFR 60.482-4(a) and (b), provided the owner or operator complies with the requirements in 40 CFR 60.482-4(d)(2) of this section. After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in 40 CFR 60.482-9. [40 CFR 60.482-4(d)]

Except for in-situ sampling systems and sampling systems without purges, each sampling connection system shall be equipped with a closed-purge,

closed-loop, or closed-vent system, except as provided in 40 CFR 60.482-1(c). Each closed-purge, closed-loop, or closed-vent system shall comply with the requirements specified in 40 CFR 60.482-5(b)(1), (2), (3), and (4). [40 CFR 60.482-5(a), (b), and (c)]

Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR 60.482-1(c). The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with this condition at all other times. [40 CFR 60.482-6(a) and (c)]

Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed. [40 CFR 60.482-6(b)]

Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of 40 CFR 60.482-6(a), (b) and (c). [40 CFR 60.482-6(d)]

Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in 40 CFR 60.482-6(a) through (c) are exempt from the requirements of 40 CFR 60.482-6(a) through (c). [40 CFR 60.482-6(e)]

Each valve in gas/vapor service and in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b) and shall comply with 40 CFR 60.482-7(b) through (e), except as provided in 40 CFR 60.482-7(f), (g), and (h), 40 CFR 60.483-1, 40 CFR 60.483-2, and 40 CFR 60.482-1(c). A leak is detected if an instrument reading of 10,000 ppm or greater is measured. [40 CFR 60.482-7(a) and (b)]

Any valve in gas/vapor service or in light liquid service for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months. [40 CFR 60.482-7(c)]

When a leak is detected for any valve in gas/vapor service or in light liquid service, it shall be repaired as soon as practicable, but no later than 15

calendar days after the leak is detected, except as provided in 40 CFR 60.482-9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices specified in 40 CFR 60.482-7(e)(1), (2), (3), and (4), where practicable. [40 CFR 60.482-7(d) and (e)]

Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 40 CFR 60.482-7(a) if the valve meets the requirements specified in 40 CFR 60.482-7(f)(1), (2), and (3). [40 CFR 60.482-7(f)]

Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of 40 CFR 60.482-7(a) if: 1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-7(a); and 2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times. [40 CFR 60.482-7(g)]

Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of 40 CFR 60.482-7(a) if: 1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface; 2) The process unit within which the valve is located either becomes an affected facility through 40 CFR 60.14 or 40 CFR 60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor; and 3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year. [40 CFR 60.482-7(h)]

The owner or operator may elect to comply with the applicable provisions for valves in gas/vapor service and in light liquid service as specified in 40 CFR 60.483-1 and 60.483-2. [40 CFR 60.592(b)

If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the owner or operator shall follow either one of the following procedures: 1) The owner or operator shall monitor the equipment within 5 days by the method specified in 40 CFR 60.485(b) and shall comply with the requirements of 40 CFR 60.482-8(b) through (d); or 2) The owner or

operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak. A leak is detected if an instrument reading of 10,000 ppm or greater is measured. [40 CFR 60.482-8(a) and (b)]

When a leak is detected in pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices described under 40 CFR 60.482-7(e). [40 CFR 60.482-8(c) and (d)]

For closed vent systems and control devices, vapor recovery systems shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent. [40 CFR 60.482-10(b)]

For closed vent systems and control devices, enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 degrees C. [40 CFR 60.482-10(c)]

Flares used to comply with Subpart GGG shall comply with the requirements of 40 CFR 60.18. [40 CFR 60.482-10(d)]

Owners or operators of control devices used to comply with the provisions of Subpart GGG shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. [40 CFR 60.482-10(e)]

Except as provided in 40 CFR 60.482-10(i) through (k), each closed vent system used to comply with the provisions of Subpart GGG shall be inspected according to the procedures and schedule specified in 40 CFR 60.482-10(f)(1) and (f)(2). Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in 40 CFR 60.482-10(h). A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. Repair shall be completed no later than 15 calendar days after the leak is detected. [40 CFR 60.482-10(f) and (g)]

Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown. [40 CFR 60.482-10(h)]

If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2). [40 CFR 60.482-10(i)]

Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(l)(1), as unsafe to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10 (j)(1) and (j)(2). [40 CFR 60.482-10(j)]

Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(l)(2), as difficult to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10(k)(1) through (k)(3). [40 CFR 60.482-10(k)]

The owner or operator shall record the following information: 1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment; 2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment; 3) For each inspection during which a leak is detected, a record of the information specified in 40 CFR 60.486(c); 4) For each inspection conducted in accordance with 40 CFR 60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected; and 5) For each visual inspection conducted in accordance with 40 CFR 60.482-10(f)(1)(ii) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. [40 CFR 60.482-10(l)]

Closed vent systems and control devices used to comply with provisions Subpart GGG shall be operated at all times when emissions may be vented to them. [40 CFR 60.482-10(m)]

In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods

in 40 CFR 60, Appendix A or other methods and procedures as specified in 40 CFR 60.485, except as provided in 40 CFR 60.8(b). [40 CFR 60.485(a)]

The owner or operator shall determine compliance with the standards in 40 CFR 60.482, 60.483, and 60.484 as follows: Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used: (i) Zero air (less than 10 ppm of hydrocarbon in air); and (ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane. [40 CFR 60.485(b)]

The owner or operator shall determine compliance with the no detectable emission standards in 40 CFR 60.482-2(e), 60.482-3(i), 60.482-4, 60.482-7(f), and 60.482-10(e) as follows: 1) The requirements of 40 CFR 60.485(b) shall apply. 2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance. [40 CFR 60.485(c)]

The owner or operator shall test each piece of equipment unless demonstrated that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used: 1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference as seen in 40 CFR 60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment; 2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid; and 3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, the previous two procedures as specified in 40 CFR 60.485(d)(1) and (2) shall be used to resolve the disagreement. [40 CFR 60.485(d)]

The owner or operator shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply: 1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 °C (1.2 in. H2O at 68 degrees F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference as seen in 40 CFR 60.17)

shall be used to determine the vapor pressures; 2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 degrees Celsius is equal to or greater than 20 percent by weight; and 3) The fluid is a liquid at operating conditions. [40 CFR 60.485(e)]

Samples used in conjunction with 40 CFR 60.485(d), (e), and (g) shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare. [40 CFR 60.485(f)]

The owner or operator shall determine compliance with the standards of flares as specified in 40 CFR 60.485(g)(1), (2), (3), (4), (5), (6), and (7). [40 CFR 60.485(g)]

An owner or operator of more than one affected facility subject to the provisions Subpart GGG may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility. [40 CFR 60.486(a)]

When each leak is detected as specified in 40 CFR 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following requirements apply: 1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment; 2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR 60.482-7(c) and no leak has been detected during those 2 months; and 3) The identification on equipment except on a valve, may be removed after it has been repaired. [40 CFR 60.486(b)]

When each leak is detected as specified in 40 CFR 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following information shall be recorded in a log and shall be kept for 5 years in a readily accessible location: 1) The instrument and operator identification numbers and the equipment identification number; 2) The date the leak was detected and the dates of each attempt to repair the leak; 3) Repair methods applied in each attempt to repair the leak; 4) ``Above 10,000'' if the maximum instrument reading measured by the methods specified in 40 CFR 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm; 5) ``Repair delayed'' and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak; 6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown; 7) The expected date of successful repair of the leak if a leak is not repaired within 15 days; 8) Dates of process unit shutdown that occur while the equipment is unrepaired; and 9) The date of successful repair of the leak. [40 CFR 60.486(c) and District Rule 2520, 9.4.2]

The following information pertaining to the design requirements for closed vent systems and control devices described in 40 CFR 60.482-10 shall be recorded and kept in a readily accessible location: 1) Detailed schematics, design specifications, and piping and instrumentation diagrams; 2) The dates and descriptions of any changes in the design specifications; 3) A description of the parameter or parameters monitored, as required in 40 CFR 60.482-10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring; 4) Periods when the closed vent systems and control devices required in 40 CFR 60.482-2, 60.482-3, 60.482-4, and 60.482-5 are not operated as designed, including periods when a flare pilot light does not have a flame; and 5) Dates of startups and shutdowns of the closed vent systems and control devices required in 40 CFR 60.482-2, 60.482-3, 60.482-4, and 60.482-5. [40 CFR 60.486(d)]

The following information pertaining to all equipment subject to the requirements in 40 CFR 60.482-1 to 60.482-10 shall be recorded in a log that is kept in a readily accessible location: 1) A list of identification numbers for equipment subject to the requirements of Subpart GGG; 2) (i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 CFR 60.482-2(e), 60.482-3(i) and 60.482-7(f). (ii) The designation of equipment as subject to the requirements of 40 CFR 60.482-2(e), 60.482-3(i) and 60.482-7(f) shall be signed by the owner or operator; 3) A list of equipment identification numbers for pressure relief devices required to comply with §60.482-4; 4) (i) The dates of each compliance test as required in 40 CFR 60.482-2(e), 60.482-3(i), §60.482-4, and 60.482-7(f). (ii) The background level measured during each compliance test. (iii) The maximum instrument reading measured at the equipment during each compliance test; and 5) A list of identification numbers for equipment in vacuum service. [40 CFR 60.486(e)]

The following information pertaining to all valves subject to the requirements of 40 CFR 60.482-7(g) and (h) and to all pumps subject to the requirements of 40 CFR 60.482-2(g) shall be recorded in a log that is kept in a readily accessible location: 1) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump; and 2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve. [40 CFR 60.486(f)]

The following information shall be recorded for valves complying with 40 CFR 60.483-2: 1) A schedule of monitoring; 2) The percent of valves found leaking during each monitoring period. [40 CFR 60.486(g)]

The following information shall be recorded in a log that is kept in a readily accessible location: 1) Design criterion required in 40 CFR 60.482-2(d)(5) and 60.482-3(e)(2) and explanation of the design criterion; and 2) Any changes to this criterion and the reasons for the changes. [40 CFR 60.486(h)]

The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in 40 CFR 60.480(d): 1) An analysis demonstrating the design capacity of the affected facility; 2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol; and 3) An analysis demonstrating that equipment is not in VOC service. [40 CFR 60.486(i)]

Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location. [40 CFR 60.486(j)]

The provisions of 40 CFR 60.7 (b) and (d) do not apply to affected facilities subject to Subpart GGG. [40 CFR 60.486(k)]

All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 CFR 60.486: 1) Process unit identification; 2) For each month during the semiannual reporting period, i) Number of valves for which leaks were detected as described in 40 CFR 60.482-7(b) or 40 CFR 60.483-2, (ii) Number of valves for which leaks were not repaired as required in 40 CFR 60.482-7(d)(1), (iii) Number of pumps for which leaks were detected as described in 40 CFR 60.482-2(b) and (d)(6)(i), (iv) Number of pumps for which leaks were not repaired as required in 40 CFR 60.482-2(c)(1) and (d)(6)(ii), (v) Number of compressors for which leaks were detected as described in 40 CFR 60.482-3(f), (vi) Number of compressors for which leaks were not repaired as required in 40 CFR 60.482-3(g)(1), and (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible; 3) Dates of process unit shutdowns which occurred within the semiannual reporting period; 4) Revisions to items reported in the semiannual report if changes have occurred since the initial report, as required in 40 CFR 60.487 (a) and (b), or subsequent revisions to the initial report. [40 CFR 60.487(c)]

An owner or operator electing to comply with the provisions of 40 CFR 60.483-1 and 60.483-2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions. [40 CFR 60.487(d)]

An owner or operator shall report the results of all performance tests in accordance with 40 CFR 60.8 of the General Provisions. The provisions of 40 CFR 60.8(d) do not apply to affected facilities subject to the provisions of Subpart GGG except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests. [40 CFR 60.487(e)]

The semiannual reporting requirements of 40 CFR 60.487(a), (b), and (c) remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of 40 CFR 60.487(a), (b), and (c), provided that they comply with the requirements established by the State. [40 CFR 60.487(f)]

Compressors are exempt from the standards of Subpart GGG if the owner or operator demonstrates that a compressor is in hydrogen service. Each compressor is presumed not to be in hydrogen service unless an owner or operator demonstrates that the piece of equipment is in hydrogen service. For a piece of equipment to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume. For purposes of determining the percent hydrogen content in the process fluid that is contained in or contacts a compressor, procedures that conform to the general method described in ASTM E-260, E-168, or E-169 shall be used. An owner or operator may use engineering judgment demonstrate that the percent content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume. When an owner or operator and the Administrator do not agree on whether a piece of equipment is in hydrogen service, however, the procedures that conform to the general method described in ASTM E-260, E-168, or E-169 shall be used to resolve the disagreement. If an owner or operator determines that a piece of equipment is in hydrogen service, the determination can be revised only after following the procedures that conform to the general method described in ASTM E-260, E-168, or E-169. [40 CFR 60.593(b)]

Any existing reciprocating compressor that becomes an affected facility under provisions of 40 CFR 60.14 or 40 CFR 60.15 is exempt from 40 CFR 60.482-3 (a), (b), (c), (d), (e), and (h) provided the owner or operator demonstrates that recasting the distance piece or replacing the

compressor are the only options available to bring the compressor into compliance with the provisions of 40 CFR 60.482-3 (a), (b), (c), (d), (e), and (h). [40 CFR 60.593(c)]

An owner or operator may use the following provision in addition to 40 CFR 60.485(e): Equipment is in light liquid service if the percent evaporated is greater than 10 percent at 150 °C as determined by ASTM Method D86-78, 82, 90, 95, or 96. [40 CFR 60.593(d)]

Pumps in light liquid service and valves in gas/vapor and light liquid service within a procesic compounds of usually high molecular weight that consist of many repeated links, each link being a relatively light and simple molecule. [40 CFR 60.593(e)]

Equipment that is in vacuum service is excluded from the requirements of 40 CFR 60.482-2 to 40 CFR 60.482-10 if it is identified as required in 40 CFR 60.486(e)(5). [40 CFR 60.482-1(d)]

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

a. Delayed Coking Operation (S-34-3-11)

- Conditions 78 through 141 of the requirements for this permit unit assure compliance with this rule.

Permit Shield

The applicant is requesting a permit shield from the requirements of 40 CFR 60 Subpart GGG. Compliance with permit conditions in the Operating Permit shall be deemed compliance with 40 CFR 60 Subpart GGG and a permit shield is granted from the requirements of this rule. See the following permit conditions:

Delayed Coking Operation (S-34-3-11)

- A permit shield is being granted for these requirements in condition 151 of the requirements for this permit unit.

VII. PERMIT CONDITIONS

See the following attached draft permit.

Flares

I. EQUIPMENT LISTING

The following is a list of equipment included in this category:

Permit Unit	Equipment Description
S-34-11-6	FLARE INCLUDING WASTE GAS KNOCKOUT DRUM, STEAM INJECTED FLARE TIP WITH AUTOMATIC CONTROLS, SECONDARY CHEMICAL INJECTION H2S REMOVAL SYSTEM CONNECTED TO FLARE GAS SUPPLY LINE WITH MISC TANKS, PIPING, AND PRESSURE VESSELS

II. GENERAL PERMIT TEMPLATE USAGE

The applicant has chosen not to use any model general permit Templates for the equipment listed above.

III. SCOPE OF EPA AND PUBLIC REVIEW

Equilon Enterprises LLC has not requested to utilize model general permit templates for this type of equipment. All terms and conditions from the proposed permits are subject to EPA and public review.

IV. APPLICABLE REQUIREMENTS ADDRESSED BY GENERAL PERMIT TEMPLATES

The applicant has not proposed to utilize any model general permit templates for this type of equipment. All applicable requirements are explicitly addressed in the permit outside of the general permit templates.

V. APPLICABLE REQUIREMENTS NOT ADDRESSED BY GENERAL PERMIT TEMPLATES

District Rule 2201	District New And Modified Stationary Source Review Rule (amended April 25, 2002)
District Rule 2520	Federally Mandated Operating Permits (amended June 21, 2001)
District Rule 4001	New Source Performance Standards (amended April 14, 1999)
District Rule 4101	Visible Emissions (amended November 15, 2001)

District Rule 4311	Flares (adopted June 20, 2002)
District Rule 4451	Valves, Pressure Relief Valves, Flanges, Threaded Connections And Process Drains At Petroleum Refineries And Chemical Plants (amended December 17, 1992)
District Rule 4452	Pump And Compressor Seals At Petroleum Refineries And Chemical Plants (amended December 17, 1992)
District Rule 4454	Pump And Compressor Seals At Petroleum Refineries And Chemical Plants (amended December 17, 1992)
40 CFR Part 60 Subpart A	General Provisions
40 CFR Part 60, Subpart J	Standards of Performance for Petroleum Refineries
40 CFR Part 60, Subpart GGG	Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

VI. REQUIREMENTS NOT FEDERALLY ENFORCEABLE

For each Title V source, the District issues a single permit that contains the Federally Enforceable requirements, as well as the District-only requirements. The District-only requirements are not a part of the Title V Operating Permits. The terms and conditions that are part of the facility's Title V permit are designated as Federally Enforceable Through Title V Permit.

There are no requirements not Federally Enforceable.

VII. COMPLIANCE

A. Requirements Addressed by Model General Permit Templates

The applicant is not proposing to use a general permit template for this category of permit units. Compliance with all federally applicable requirements will be addressed in the following Section of this engineering evaluation.

B. Requirements Not Addressed by Model General Permit Templates

1. New and Modified Stationary Source Review Rule

Permit unit S-34-11-6 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

a. Flare (S-34-11-4)

- Condition 1 of the PTO has been subsumed by conditions 26 through 31 and 43 through 61 of the requirements for this permit unit.
- Condition 2 of the PTO has been subsumed by conditions 32 through 42, 58 and 59 of the requirements for this permit unit.
- Condition 3 of the PTO has been subsumed by condition 1 of the requirements for this permit unit.
- Conditions 4 through 6 of the PTO have been subsumed by conditions 4 through 6 of the requirements for this permit unit.
- Conditions 7 through 11 of the PTO have been included as conditions 7 through 11 of the requirements for this permit unit.
- Condition 12 of the PTO has been subsumed by condition 22 of the facility wide requirements for this permit unit.

2. District Rule 2520, 9.3.2 and 9.4.2

Section 9.3.2 requires that periodic monitoring be performed if none is associated with a federally enforceable requirement to assure compliance.

a. Flare (S-34-11-4)

- Periodic monitoring required by this section is supported by permit conditions #12 and #18. These conditions require additional visible emissions monitoring by the source, and require the flare be operated according to manufacturer's specifications to assure compliance with 40CFR 60.18.

Section 9.4.2 requires all records be maintained for at least five years.

a. Flare (S-34-11-4)

- Facility wide requirements condition #9 will assure that all records be maintained for at least five years.

3. District Rule 4001, <u>New Source Performance Standards</u>

This rule incorporates the New Source Performance Standards from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR). All new sources of air

pollution and modification of existing sources of air pollution shall comply with the standards, criteria, and requirements set forth therein.

a. Flare (S-34-11-4)

- Conditions 4 through 6 of the requirements for this permit unit assures compliance with this rule.

4. District Rule 4101, 5.0

Section 5.0 requires that no air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater by using EPA method 9.

a. Flare (S-34-11-4)

- The visible emission limit is stipulated in the facility wide requirements condition #22.

5. District Rule 4311, 5.0 and 6.0

The following is a streamlining of multiple applicable requirements of District Rule 4311 and 40 CFR 60, Subpart A, § 60.18 General Control Device Requirements.

Table 2: Side-by-Side Comparison of District Rule 4311 to 40 CFR 60, Subpart A, § 60.18

Type of Requirement	District Rule 4311 (unless otherwise noted)	Subpart A, § 60.18	Alternate Proposed Requirement
Monitoring	Rule 4101 (5.1) A person shall not discharge into the atmosphere from any single source of emission whatsoever, any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three (3) minutes in any one (1) hour which is: As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.	(c)(1) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.	No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity.
Monitoring	N/A	(f)(1) Reference Method 22 of Appendix A to this part shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22 of Appendix A to this part.	Visible emissions monitoring shall be conducted at least annually, using EPA Method 22.

Table 2: Side-by-Side Comparison of District Rule 4311 to 40 CFR 60, Subpart A, § 60.18			
Type of Requirement	**District Rule 4311 (unless otherwise noted)**	**Subpart A, § 60.18**	**Alternate Proposed Requirement**
Monitoring	(5.2) The flame shall be present at all times when combustible gases are vented through the flare.	(c)(2) Flares shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f).	The flame shall be present at all times when combustible gases are vented through the flare.
Monitoring	N/A	(e) Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.	Previously addressed.
Monitoring	(5.3) The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares.	(f)(2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.	The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares.
Monitoring	(5.4) Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated.	N/A	Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated.
Monitoring	(5.5) Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging.	N/A	Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging.
Monitoring	(5.6) Open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18.	N/A	Open flares in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18.
Monitoring	N/A	(d) Owners or operators of flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators of flares shall monitor these control devices.	The flare shall be operated according to the manufacturer's specifications, a copy of which shall be maintained on site.

Table 2: Side-by-Side Comparison of District Rule 4311 to 40 CFR 60, Subpart A, § 60.18			
Type of Requirement	**District Rule 4311 (unless otherwise noted)**	**Subpart A, § 60.18**	**Alternate Proposed Requirement**
Monitoring	N/A	(c)(3)(i)(A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity, Vmax, as determined by the following equation: $Vmax = (XH_2 - K1) * K2$ Where: Vmax = Maximum permitted velocity, m/sec. K1 = Constant, 6.0 volume-percent hydrogen. K2 = Constant, 3.9(m/sec)/volume-percent hydrogen. XH_2 = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77.	The flare shall have a diameter of 3 inches or greater, have a minimum hydrogen content of 8.0% by volume, and be designed for and operated with an exit velocity less than 122 ft/sec and less than the velocity Vmax, as determined by the equation specified in paragraph 40 CFR 60.18 (c)(3)(i)(A).
Monitoring	N/A	(f)(4) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.	The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.
Monitoring	N/A	(c)(3)(ii) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f)(3) of this section.	Air-assisted or steam-assisted flares shall only be used when the net heating value of the gas being combusted is 300 Btu/scf or greater. Nonassisted flares shall only be used when the net heating value of the gas being combusted is 200 Btu/scf or greater.
Monitoring	N/A	(c)(4)(i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4) of this section, less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (c)(4) (ii) and (iii).	Steam-assisted and nonassisted flares shall be operated with an exit velocity, less than 60 ft/sec, except as provided in 40 CFR 60.18 (c)(4)(ii) and (iii).
Monitoring	N/A	(c)(4)(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).	Steam-assisted and nonassisted flares may be operated with an exit velocity equal to or greater than 60 ft/sec, but less than 400 ft/sec, if the net heating value of the gas being combusted is greater than 1,000 Btu/scf.

Table 2: Side-by-Side Comparison of District Rule 4311 to 40 CFR 60, Subpart A, § 60.18			
Type of Requirement	**District Rule 4311 (unless otherwise noted)**	**Subpart A, § 60.18**	**Alternate Proposed Requirement**
Monitoring	N/A	(c)(4)(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than the velocity, Vmax, as determined by the method specified in paragraph (f)(5), and less than 122 m/sec (400 ft/sec) are allowed. (f)(5) The maximum permitted velocity, Vmax, for flares complying with paragraph (c)(4)(iii) shall be determined by the following equation. Log10 (V**max**) = (H_T + 28.8) / 31.7 V**max** = Maximum permitted velocity, M/sec 28.8 = Constant 31.7 = Constant H_T = The net heating value as determined in paragraph (f)(3).	Steam-assisted and nonassisted flares may be operated with an exit velocity less than the velocity Vmax, as determined by the methods specified in 40 CFR 60.18 (f)(5), and less than 400 ft/sec.
Monitoring	N/A	(c)(5) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, Vmax, as determined by the method specified in paragraph (f)(6). (f)(6) The maximum permitted velocity, V**max**, for air-assisted flares shall be determined by the following equation. V**max** = 8.706 + 0.7084 (H_T) V**max** = Maximum permitted velocity, m/sec 8.706 = Constant 0.7084 = Constant H_T = The net heating value as determined in paragraph (f)(3).	Air-assisted flares shall be operated with an exit velocity less than the velocity Vmax as determined by the methods specified in 40 CFR 60.18 (f)(6).
Monitoring	N/A	(c)(6) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.	Addressed in the TQF.

Table 2: Side-by-Side Comparison of District Rule 4311 to 40 CFR 60, Subpart A, § 60.18			
Type of Requirement	**District Rule 4311 (unless otherwise noted)**	**Subpart A, § 60.18**	**Alternate Proposed Requirement**
Monitoring	N/A	(f)(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation: $H_T = \sum C_i H_i$, from i = 1 to n where: H_T=Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25oC and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C; K = Constant, 1.740×10^{-7} (1)/(ppm) (g mole)/(scm) (MJ)/(kcal) where the standard temperature for (g mole) / (scm) is 20° C C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 or 90 (Re-approved 1994)(Incorporated by reference as specified in § 60.17); and H_i = Net heat of combustion of sample component i, kcal/g mole at 25°C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95. (incorporated by reference as specified in § 60.17) if published values are not available or cannot be calculated.	The net heating value of the gas being combusted the flare shall be calculated pursuant to 40 CFR 60.18(f)(3) or by using EPA Method 18, ASTM D1946, and ASTM D2382 if published values are not available or cannot be calculated.
Administrative	(6.1.1) Upon request, the operator of flares that are subject to Section 5.6 shall make available to the APCO the compliance determination records that demonstrate compliance with the provisions of 40 CFR 60.18, (c)(3) through (c)(5).	N/A	The permittee shall maintain, and make available for District inspection, all records of required monitoring data and support information for inspection at any time for a period of five years.
Administrative	(6.2.1) The operator shall keep the following records at the facility for a period of at least five years: Copy of the compliance determination pursuant to section 6.1.1.	N/A	Addressed in the facility-wide template, SJV-UM-0-2

Table 2: Side-by-Side Comparison of District Rule 4311 to 40 CFR 60, Subpart A, § 60.18			
Type of Requirement	**District Rule 4311 (unless otherwise noted)**	**Subpart A, § 60.18**	**Alternate Proposed Requirement**
Test Methods	(6.3.1) VOC, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case Method 25a may be used, and analysis of halogenated exempt compounds shall be analyzed by EPA Method 18 or ARB Method 422 "Determination of Volatile organic Compounds in Emission from Stationary Sources". The VOC concentration in ppmv shall be converted to pounds per million Btu (lb/MMBtu) by using the following equation: VOC in lb/MMBtu = [(ppmv dry) X F dscf/MMBtu)] / [1,135,000 X (20.9 - %O2)] Where: F = As determined by EPA Method 19 Alternate equivalent test methods may be used provided the test methods have been approved by the APCO and EPA.	N/A	This test method is not applicable to open flares and will not be required.
Test Methods	(6.3.2) NO_x emissions in pounds per million BTU shall be determined by using EPA Method 19.	N/A	This test method is not applicable to open flares and will not be required.
Test Methods	(6.3.3) NO_x and O_2 concentrations shall be determined by using EPA Method 3A, EPA Method 7E, or ARB 100.	N/A	This test method is not applicable to open flares and will not be required.

6. District Rule 4451, Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants

District Rule 4451 limits leaks from valves, pressure relief valves, flanges, threaded connections, and process drains that may result in fugitive emissions of VOC at petroleum refineries and chemical plants. Inspection, repair and maintenance schedules, recordkeeping and administrative requirements, and test methods are specified.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

a. Flare (S-34-11-4)

- Conditions 25 through 40 and 48 of the requirements for this permit unit assure compliance with this rule.

Permit Shield

The applicant is requesting a permit from the requirements of District Rule 4451. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4451 and a permit shield is granted from the requirements of this rule. See the following permit conditions:

a. Flare (S-34-11-4)

- Condition 49 of the requirements for this permit unit assures compliance with this rule.

7. District Rule 4452, Pump and Compressor Seals at Petroleum Refineries and Chemical Plants

This rule limits leaks from pumps and compressors and associated seals that may result in fugitive emissions of VOC at petroleum refineries and chemical plants. Inspection, repair and maintenance schedules, recordkeeping and administrative, and test methods are specified.

a. Flare (S-34-11-4)

Conditions 41 through 48 of the requirements for this permit unit assure compliance with this rule.

Permit Shield

The applicant is requesting a permit from the requirements of District Rule 4452. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4452 and a permit shield is granted from the requirements of this rule. See the following permit conditions:

a. Flare (S-34-11-4)

- Condition 50 of the requirements for this permit unit assures compliance with this rule.

8. District Rule 4454, Refinery Process Unit Turnaround

District Rule 4454 has been submitted to the EPA to replace Kern County Rule 414.3, which is in the SIP. District Rule 4454 is as stringent as Kern County Rule 414.3, as shown on Table 4.

Table 3 - Comparison of District Rule 4454 and Kern County Rule 414.3

REQUIREMENT	District Rule 4454	Kern County Rule 414.3
A person shall not depressurize any vessel containing VOCs unless the process unit turnaround is accomplished by employing one of the following operating procedures: a. The organic vapors shall either be recovered, added to the refinery fuel gas system and combusted; or controlled and piped to an appropriate firebox or incinerated for combustion; or flared, until the pressure within the process vessel is as close to atmospheric pressure as is possible. b. All process vessels shall be depressurized into the control facilities to less than 1020 mm Hg (5 psig) before venting/opening to atmosphere. c. All organic compounds which emerge from a refinery process vessel during the purging of said vessel and which otherwise would be emitted to the atmosphere shall be either directed to a flare or incinerator or shall be used for fuel until such disposition of emissions is not technically feasible or is less safe than atmospheric venting.	✓	✓
Any process vessel that has been depressurized to less than 1020 mm Hg (5 psig).	✓	✓

The purpose of this rule is to limit VOC emissions resulting from the purging, repair, cleaning, or otherwise opening or releasing pressure from a refinery vessel during a process unit turnaround.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

b. Flare (S-34-11-4)

- Condition 1 of the requirements for this permit unit assures compliance with this rule.

9. 40 CFR 60 Subpart A

NSPS Subpart A section 60.18 (c)(1) requires flares to be designed and to operate with no visible emissions, except for periods not to exceed 5 minutes during any 2 consecutive hours. Section 60.18 (f)(1) also requires that visible emissions determinations be made using EPA Method 22. Compliance with these requirements are streamlined in Table 2 and assured by permit conditions #13 and facility wide requirement #22.

Sections 60.18 (c)(3), 60.18 (c)(5), and 60.18 (f)(3-6) set a limit on the net heating value of the flared gas to be no less than 200 Btu/scf for nonassisted flares and 300 Btu/scf for air-assisted or steam-assisted flares. The method to be used to calculate net heating value is also specified. Compliance with these requirements is assured by permit conditions #20, #21, and #25.

Section 60.18 (c)(4)(i-iii) also requires the flare gas exit velocity to conform to the following limits:

		Exit Velocity (ft/sec)	
Flare Type	Flare Gas Min. Btu/scf	Min	Max
Air-assisted	300	----	< 55
Nonassisted	200	----	< 60
Steam-assisted	300	----	< 60
Nonassisted	>1,000	60	<400
Steam-assisted	>1,000	60	<400

Compliance with these operating limits will be ensured by permit conditions #21, #22, and #23.

Sections 60.18 (c)(2), 60.18 (e), and 60.18 (f)(2)
These sections of Subpart A require that flares be operated with a flame present at all times when emissions may be vented to them. The presence of the pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the flame presence. Compliance with these requirements will be assured by permit conditions #13, #14, and #15.

10. 40 CFR Part 60, Subpart J, Standards of Performance for Petroleum Refineries

The provisions of this subpart are applicable to petroleum refineries that utilize fuel gas combustion devices, which are equipment, such as process heaters, boilers and flares used to combust fuel gas.

Section 60.104(a)(1) requires that any fuel gas combustion device shall not burn any fuel gas hydrogen sulfide (H_2S) in excess of 0.10 gr/dscf (230 mg/dscm).

Section 60.105 requires the installation of a continuous monitoring system to monitor SO_2 emissions into the atmosphere or the concentration of H_2S in the fuel gas being burned.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

a. Flare (S-34-11-4)

- Conditions 2 through 5 of the requirements for this permit unit assure compliance with this rule.

ORGANIC LIQUID STORAGE TANKS AND MISCELLANEOUS STORAGE TANKS

I. EQUIPMENT DETAIL

The following is a list of equipment included in this category:

Permit Unit	Equipment Description
S-34-13-3	150,000 BBL FIXED ROOF STORAGE TANK #T-900A WITH VAPOR RECOVERY SEPARATOR, COMPRESSOR, COMPRESSOR KNOCKOUT DRUM, AND PIPING TO REFINERY FUEL GAS SYSTEM
S-34-14-3	150,000 BBL FIXED ROOF STORAGE TANK #T-900B WITH VAPOR RECOVERY SEPARATOR, COMPRESSOR, COMPRESSOR KNOCKOUT DRUM, AND PIPING TO REFINERY FUEL GAS SYSTEM
S-34-15-3	10,000 BBL FIXED ROOF STORAGE TANK #T-901 WITH VAPOR RECOVERY SEPARATOR, COMPRESSOR, COMPRESSOR KNOCKOUT DRUM AND PIPING TO REFINERY FUEL GAS SYSTEM
S-34-16-3	2,000 BBL FIXED ROOF STORAGE TANK #T-909A WITH VAPOR RECOVERY SEPARATOR, COMPRESSOR, COMPRESSOR KNOCKOUT DRUM AND PIPING TO REFINERY FUEL GAS SYSTEM
S-34-17-3	2,000 BBL FIXED ROOF STORAGE TANK #T-909B WITH VAPOR RECOVERY SEPARATOR, COMPRESSOR, COMPRESSOR KNOCKOUT DRUM AND PIPING TO REFINERY FUEL GAS SYSTEM
S-34-18-3	100,000 BBL FIXED ROOF STORAGE TANK #T-912A WITH VAPOR RECOVERY SEPARATOR, COMPRESSOR, COMPRESSOR KNOCKOUT VESSEL AND PIPING TO REFINERY FUEL GAS SYSTEM
S-34-19-3	100,000 BBL FIXED ROOF STORAGE TANK #T-912B WITH VAPOR RECOVERY SEPARATOR, COMPRESSOR, COMPRESSOR KNOCKOUT DRUM AND PIPING TO REFINERY FUEL GAS SYSTEM
S-34-21-3	10,000 BBL FIXED ROOF STORAGE TANK #T-902 WITH VAPOR CONTROL
S-34-22-3	10,000 BBL FIXED ROOF STORAGE TANK #T-911 WITH VAPOR CONTROL AND 4 HOSES FOR TRUCK UNLOADING
S-34-23-2	10,000 BBL FIXED ROOF STORAGE TANK #T-910 WITH VAPOR CONTROL
S-34-24-2	20,000 BBL FIXED ROOF STORAGE TANK #T-903 WITH VAPOR CONTROL

II. GENERAL PERMIT TEMPLATE USAGE

The applicant has chosen not to use any model general permit Templates for the equipment listed above.

III. SCOPE OF EPA AND PUBLIC REVIEW

Equilon Enterprises LLC has not requested to utilize model general permit templates for this type of equipment. All terms and conditions from the proposed permits are subject to EPA and public review.

IV. APPLICABLE REQUIREMENTS ADDRESSED BY GENERAL PERMIT TEMPLATES

The applicant has not proposed to utilize any model general permit templates. All applicable requirements are explicitly addressed in the permit outside of the general permit templates.

V. APPLICABLE RULES NOT ADDRESSED BY PERMIT TEMPLATES

District Rule 2201	New And Modified Stationary Sources Review District (Amended April 25, 2002)
District Rule 2520	Federally Mandated Operating Permits (Amended June 21, 2002)
District Rule 4623	Storage of Organic Liquids (Amended December 17, 1992)
40 CFR 60, 60.110	NSPS Subpart K Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978
40 CFR 60.110a	NSPS Subpart Ka Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984

VI. REQUIREMENTS NOT FEDERALLY ENFORCEABLE

For each Title V source, the District issues a single permit that contains the Federally Enforceable requirements, as well as the District-only requirements. The District-only requirements are not a part of the Title V Operating Permits. The terms and conditions that are part of the facility's Title V permit are designated as Federally Enforceable Through Title V Permit.

VII. COMPLIANCE

A. Requirements Addressed by Model General Permit Templates

The applicant is not proposing to use a general permit template for this category of permit units. Compliance with all federally applicable requirements will be addressed in the following Section of this engineering evaluation.

B. Requirements Not Addressed by Model General Permit Templates

1. New and Modified Stationary Source Review

Fixed Roof Tank With Vapor Recovery Separator (Permit Units S-34-13-3, -14-3, -15-3, -16-3, -17-3, -18-3, -19-3, -21-3, -22-3, -23-2, and -24-2)

These permit units were subject to the NSR Rule at the time the applicant applied for Authority to Construct (ATC) these units. In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from PTOs S-34-13-2, -14-2, -15-2, -16-2 -17-2, -18-2, -19-2, -21-2, -22-2, -23-1, and -24-1 were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 from the PTO was included as condition 3 of the requirements for these permit units,
- Condition 2 from the PTO was included as condition 17 of the requirements for these permit units,
- Condition 3 from the PTO was included as condition 6 of the requirements for these permit units,
- Condition 4 from the PTO was included as condition 10 of the requirements for these permit units,
- Condition 5 from the PTO was included as condition 11 of the requirements for these permit units,
- Condition 6 from the PTO was included as condition 12 of the requirements for these permit units,
- Condition 7 from the PTO was included as condition 13 of the requirements for these permit units,
- Condition 8 from the PTO was included as condition 14 of the requirements for these permit units,
- Condition 9 from the PTO was included as condition 15 of the requirements for these permit units,

- Condition 10 from the PTO was included as condition 1 of the requirements for these permit units.

2. District Rule 2520 – Federally Mandated Operating Permits

Organic Liquid Storage Tanks (Permit Units S-34-13-3, -14-3, -15-3, -16-3, -17-3, -18-3, -19-3, -21-3, -22-3, -23-2, and -24-2)

Section 9.3.2 requires that periodic monitoring be performed if none is associated with a given emission limit to assure compliance. This section allows that recordkeeping requirements may be sufficient to meet these requirements. Compliance with the requirements of this rule is assured by conditions 2, 19, 20, 21, 22, 23, and 24 of the above permit units.

The operator shall perform periodic inspection for leaks and maintain the equipment in good operating conditions. Records of inspection shall be kept and correction shall be taken to eliminate emissions. Units exempted from the requirements of rule 4623 due to tank storing treated wastewater, firewater, liquids with a true vapor pressure less than 0.2 psia, liquids with an initial boiling point of 302 deg F or higher, or when tank is undergoing maintenance or cleaning, shall perform testing to determine TVP and keep the records to demonstrate an ongoing compliance. Compliance with the requirements of this section from this rule is assured by condition 7 of the above permit units.

Section 9.4.2 requires all records be maintained for at least five years. Permit condition #26 requires that all records be maintained for at least five years.

3. District Rule 4623 – Storage of Organic Liquids, and 40 CFR 60 Subpart K, Subpart Ka, and Subpart Kb – Standards of Performance for Storage Vessels for Petroleum Liquids

Organic Liquid Storage Tanks (Permit Units S-34-13-3, -14-3, -15-3, -16-3, -17-3, -18-3, -19-3, -21-3, -22-3, -23-2, and -24-2)

District Rule 4623 (adopted April 11, 1991, amended September 19, 1991, Amended December 17, 1992) is a renumbering of the requirements of SIP approved District Rule 463.2.

This rule applies to equipment used to store organic liquids with a true vapor pressure of greater than 1.5 psia, pursuant to section 2.0, Applicability. Requirements from section 5.0 apply only to floating or fixed roof organic liquid storage tanks with capacity of 19,800 gallons or greater and to gasoline storage tanks with 19,800 gallons or less capacity.

These requirements each contain work practice standards that will limit the emissions of volatile organic compounds (VOCs). District Rule 4623 is included in the SIP. The following analysis shows that the proposed requirement is more stringent than both District Rule 4623 and 40 CFR 60, Subpart Ka. Therefore, streamlining procedures, as documented in the following steps, are utilized to substitute the proposed set of requirements for the otherwise applicable requirements.

District Rule 4623 has been submitted to the EPA to replace the old District Rule 463.2, which is SIP approved. This table shows that District Rule 4623 is as stringent as rule 463.2, thus rule 463.2 will subsumed by rule 4623.

Step 1. Side-by-side Comparison of Applicable Requirements

CITATION	District Rule 4623	Subpart Ka	Proposed Requirements
WORK PRACTICE STDS.	Fixed roof tank with a vapor loss prevention system for processing and for return to liquid storage or disposal of VOCs, so as to prevent their emission to the atmosphere with an efficiency of at least 95% by weight Any gauging or sampling device vented to the vapor recovery system shall be equipped with a gas-tight cover which shall be closed at all times except during gauging or sampling All piping, valves, and fittings shall be constructed and maintained in a gas tight condition	Fixed roof tank with a vapor recovery system capable of collecting all VOC vapors and gases discharged from the storage vessel, and a vapor return or disposal system which is designed to process such VOC vapors and gases, so as to reduce their emission to the atmosphere by at least 95% by weight	Fixed roof tank with a vapor loss prevention system for processing and for return to liquid storage or disposal of VOCs, so as to prevent their emission to the atmosphere with an efficiency of at least 95% by weight Any gauging or sampling device vented to the vapor recovery system shall be equipped with a gas-tight cover which shall be closed at all times except during gauging or sampling All piping, valves, and fittings shall be constructed and maintained in a gas tight condition
EMISSION LIMIT	None	None	None
MONITORING	None	None	Leak Detection and Repair program similar to that required by District Rule 4403 for oilfield fugitives.
RECORDKEEPING	Maintain a record of liquid stored, storage temperature, and Reid vapor pressure	None	Maintain a record of liquid stored, storage temperature, and Reid vapor pressure Maintain all records for a period of not less than 5 years
REPORTING	None	None	None

CITATION	District Rule 4623	Subpart Ka	Proposed Requirements
TEST METHODS	Gas-tightness using EPA Method 21. TVP using Reid Vapor pressure by ASTM Method D323-82. TVP of crude oil with API gravity less than 30° as determined by API 2547 may be determined by Headspace Gas Chromatography Control efficiency determined by a comparison of controlled emissions to those emissions which would occur from a fixed or cone roof tank in the same product service without a vapor control system. VOC destruction by EPA Method 25, 25a, or 25b, and analysis of halogenated exempt compounds shall be analyzed by ARB Method 422.	None	Gas-tightness using EPA Method 21. TVP using Reid Vapor pressure by ASTM Method D323-82. TVP of crude oil with API gravity less than 30° as determined by API 2547 may be determined by Headspace Gas Chromatography Control efficiency determined by a comparison of controlled emissions to those emissions which would occur from a fixed or cone roof tank in the same product service without a vapor control system. VOC destruction by EPA Method 25, 25a, or 25b, and analysis of halogenated exempt compounds shall be analyzed by ARB Method 422.

Step 2. Select most stringent emission limit or performance standard

The proposed requirement to use a vapor recovery system capable of collecting all VOC vapors and gases discharged from the storage vessel, along with a vapor disposal system capable of processing such hydrocarbon vapors and gases, so as to prevent their emission to the atmosphere with an efficiency of 95% is the same as the requirement of 40 CFR 60, Subpart Ka and District Rule 4623.

Step 3. Conditions ensuring compliance with applicable requirements

The units shall be required by permit condition to comply with the streamlined work practice standards and associated recordkeeping and testing.

Step 4. Certify compliance

As part of the Title V application, the applicant is certifying compliance with all conditions required.

Step 5. Compliance schedule for new monitoring requirements

Not applicable.

Step 6. Request for permit shield

The applicant is not requesting a permit shield from the requirements of Subpart Ka of 40 CFR 60 and SJVUAPCD Rule 4623.

Compliance with the requirements of this rule is assured by conditions 3, 4, 5, 8, 9, 16, 17, 18, and 25 of Permit Units S-34-13-3, -14-3, -15-3, -16-3, -17-3, -18-3, -19-3, -21-3, -22-3, -23-2, and -24-2.

LOADING OPERATION, STORAGE TANKS, AND SOLVENT DEGREASER

I. EQUIPMENT DETAIL

The following is a list of equipment included in this category:

Permit Unit	Equipment Description
S-34-25-3	LPG TRUCK LOADING OPERATION INCLUDING N2 PURGING GAS SUPPLY AND ODORANT STORAGE TANK WITH PRESSURE RELIEF VALVE VENTING TO FLARE WHEN TANK INTERNAL PRESSURE EXCEEDS 425 PSIG
S-34-26-3	HEAVY GAS OIL TRUCK LOADING OPERATION INCLUDING 4 LOADING HOSES WITH DRY BREAK COUPLERS
S-34-27-2	STRAIGHT RUN HEAVY OIL TRUCK LOADING OPERATION INCLUDING 2 LOADING HOSES AND 2 VAPOR RECOVERY HOSES WITH DRY BREAK COUPLERS
S-34-32-1	400 GALLON FIXED ROOF STORAGE TANK
S-34-33-1	1,000 GALLON FIXED ROOF STORAGE TANK #35T402
S-34-41-1	1,200 GALLON FIXED ROOF PETROLEUM STORAGE "DEGREASER" TANK
S-34-46-1	SMALL SOLVENT DEGREASER

II. GENERAL PERMIT TEMPLATE USAGE

The applicant has chosen not to use any model general permit Templates for the equipment listed above.

III. SCOPE OF EPA AND PUBLIC REVIEW

Equilon Enterprises LLC has not requested to utilize model general permit templates for this type of equipment. All terms and conditions from the proposed permits are subject to EPA and public review.

IV. APPLICABLE REQUIREMENTS ADDRESSED BY GENERAL PERMIT TEMPLATES

The applicant has not proposed to utilize any model general permit templates. All applicable requirements are explicitly addressed in the permit outside of the general permit templates.

V. APPLICABLE REQUIREMENTS NOT ADDRESSED BY GENERAL PERMIT TEMPLATES

District Rule 2201 District New And Modified Stationary Source Review Rule (amended April 25, 2002)

District Rule 1070	Inspections (amended December 17, 1992)
District Rule 1081	Source Sampling (amended December 16, 1993) (Non SIP replacement for Kern County Rule 108.1)
District Rule 2010	Permits Required (amended December 17, 1992)
District Rule 2520	Federally Mandated Operating Permits (amended June 21, 2001)
District Rule 4451	Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants (amended December 17, 1992)
District Rule 4452	Pump and Compressor Seals at Petroleum Refineries and Chemical Plants (amended December 17, 1992)
District Rule 4623	Storage of Organic Liquids (amended December 20, 2001)
District Rule 4624	Organic Liquid Loading (amended December 17, 1992)
District Rule 4662	Organic Solvent Degreasing Operations (amended December 20, 2001)

VI. REQUIREMENTS NOT FEDERALLY ENFORCEABLE

For each Title V source, the District issues a single permit that contains the Federally Enforceable requirements, as well as the District-only requirements. The District-only requirements are not a part of the Title V Operating Permits. The terms and conditions that are part of the facility's Title V permit are designated as Federally Enforceable Through Title V Permit.

There are no requirements not Federally Enforceable.

IX. COMPLIANCE

A. Requirements Addressed by Model General Permit Templates

The applicant has chosen to not use any model general permit templates, therefore no requirements have been addressed in this section.

B. Requirements Not Addressed by Model General Permit Templates

1. New and Modified Stationary Source Review Rule (District NSR Rule)

a. LPG truck loading operation (-25-3)

This permit unit was subject to the District NSR Rule at the time the applicant applied for Authority to Construct. In accordance with the White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Conditions 1 through 4 were included as conditions 1, 2 and 4 and 5 of the requirements for this permit unit.
- Condition 5 was replaced by Conditions 6 through 21 and 29
- Condition 6 was replaced by Conditions 22 through 29
- Condition 7 was included as Condition 36.

b. Heavy Gas Oil Truck loading operation (-26-3)

This permit unit was subject to the District NSR Rule at the time the applicant applied for Authority to Construct. In accordance with the White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 was replaced by Conditions 8 through 24.
- Conditions 2 through 5 were included as conditions 1 through 4 of the requirements for this permit unit.

c. Heavy Oil truck loading operation (-27-2)

This permit unit was subject to the District NSR Rule at the time the applicant applied for Authority to Construct In accordance with the White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit

- Condition 1 was replaced by Conditions 10 through 25 and 33.
- Condition 2 was replaced by Conditions 26 through 33.
- Conditions 3 through 7 and condition 9 were included as conditions 1 through 6 of the requirements for this permit unit.
- Condition 8 was deleted since this truck loading operation only loads straight run heavy gas oil.

d. 400 gallon fixed roof storage tank (-32-1)

This permit unit was subject to the District NSR Rule at the time the applicant applied for Authority to Construct In accordance with the White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit

- Condition 1 was included as Condition 1 of the requirements of this permit unit.

e. 1,000 gallon fixed roof storage tank (-33-1)
This permit unit was subject to the District NSR Rule at the time the applicant applied for Authority to Construct In accordance with the White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit

- Condition 1 was replaced by Conditions 1 through 4 of the requirements of this permit unit.

f. 1,200 gallon fixed roof storage tank (-41-1)
This permit unit was subject to the District NSR Rule at the time the applicant applied for Authority to Construct In accordance with the White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 was replaced by Conditions 1 through 12 of the requirements of this permit unit.

g. Solvent Degreaser (-46-1)
This permit unit was subject to the District NSR Rule at the time the applicant applied for Authority to Construct In accordance with the White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit

- Conditions 1 through 4 were included as Conditions 1 through 4 of the requirements of this permit unit.

2. District Rule 2520 - Federally Mandated Operating Permits
   a. LPG truck loading operation (-25-3)
   b. Heavy Gas Oil Truck loading operation (-26-3)
c. Heavy Oil truck loading operation (-27-2)
   d. 400 gallon fixed roof storage tank (-32-1)
   e. 1,000 gallon fixed roof storage tank (-33-1)
   f. 1,200 gallon fixed roof storage tank (-41-1)

g. Solvent Degreaser (-46-1)

Section 9.3.2 of the rule requires that periodic monitoring be performed if none is associated with a given emission limit to assure compliance. This requirement is in the conditions of the following permit units:

Permit Unit	Condition
-25-3	33
-33-1	1-3
-41-1	2-8

Section 9.4.2 of the rule of the rule requires that recordkeeping be performed. This requirement is in the conditions of the following permit units:

Permit Unit	Condition
-25-3	3 and 21
-26-3	6 and 23
-27-2	7, 9 and 25
-33-1	4
-41-1	9

Section 13.2 of the rule states that permit conditions in part 70 permits that expressly state that a permit shield exists shall be deemed compliance with the applicable requirements on which the permit conditions are based.

3 District Rule 4451 – Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants and 40 CFR Part 60, Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries

District Rule 4451 limits leaks from valves, pressure relief valves, flanges, threaded connections and process drains at petroleum refineries.

Compliance with the work practice standard of District Rule 4451:

This rule requires the following work practice standards:

Valves shall not leak liquid organic compounds at a rate of more than three (3) drops per minute or leak in excess of 10,000 ppm above

background when measured with a portable analyzer in accordance with EPA Method 21.

All valves shall be inspected for leakage at least once every three (3) months.

Within 15 days after detection, any valve found to leak shall be repaired or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 95 percent efficient as measured by EPA Method 25.

Every leaking valve shall be affixed with a record of inspection which shall bear a legible record of all inspections for at least a fifteen month period or coded with the records kept in a centralized location.

Any leaking valve shall be identified by affixing a weatherproof, readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until repair and reinspection documents compliance with the requirements of this rule.

If less than two (2) percent of the all the valves are found to leak during each of five (5) consecutive quarterly inspections, the inspection frequency may be changed from quarterly to annual. If any annual inspection shows that two (2) percent or more of all the valves are leaking, then quarterly inspections of all the valves shall resume.

If a valve cannot be repaired to a no-leak condition without requiring the shutdown of essential refinery operations, the following repair schedule shall apply: If the leak rate is less than ten (10) drops per minute the APCO shall be notified of the expected date of repair, not to exceed one (1) year or the date of the next process unit turnaround whichever is less and the actual date of repair. If the leak rate is greater than nine (9) drops per minute or 10,000 ppm measure one (1) centimeter from the source, the following shall be required and the APCO shall be notified of an emergency repair, within 15 days after detection, to reduce the leak to less than ten (10) drops per minute or 10,000 ppm as methane measured one (1) centimeter from the source, or the venting, within 30 days after detection, of the emission to a flare or vapor control system that satisfies the requirements of 40 CFR 60.18 or is at least 95 percent efficient as measured by EPA Method 25, or a demonstration, within 30 days after detection, that the repair schedules are infeasible. The demonstration shall include documentation that the components is an essential device and that no vapor control device that satisfies the requirements of 40 CFR 60.18 or is at least 95 percent efficient as measured by EPA Method 25 exists.

The proposed requirements include these requirements and are therefore at least as stringent as District Rule 4451.

Compliance with the work practice standards of 40 CFR 60.482-7, 60.482-8, and 60.483-2:

This rule requires the following work practice standards:

Each valve shall be monitored monthly to detect leaks.

For valves in light liquid service: (1) a leak is detected if an instrument reading of 10,000 ppm or greater is measured using Method 21.

Valves in heavy liquid service shall be monitored within 5 days by the method specified in 40 CFR 60.485(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the following best practices where practicable: tightening of bonnet bolts; replacement of bonnet bolts; tightening of packing gland nuts; injection of lubricant into lubricated packing.

When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected.

A leaking valve shall be identified by attaching to the valve a weatherproof and readily visible identification, marked with the equipment identification number. The identification on a valve maybe removed after it has been monitored for 2 successive months and no leak has been detected during those 2 months.

Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

An owner or operator must notify the Administrator before implementing alternative work practices.

After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0 percent, an owner or operator may begin to skip 1 of the quarterly leak detection periods.

After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0 percent, an owner or operator may begin to skip 3 of the quarterly leak detection periods.

If the percent of valves leaking is greater than 2.0 percent, the owner or operator shall return to monthly monitoring of each valve but can again elect to use alternative standard for valves.

Delay of repair for valves will be allowed if the owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair and when repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 60.482-10. Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted.

Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

The proposed requirements include these requirements and are therefore at least as stringent as 40 CFR 60.482-7.

Conditions ensuring compliance with applicable requirements

a. LPG truck loading operation (-25-3)
   - Conditions 6 through 16 replaced condition 5 of the previous permit.

b. Heavy Gas Oil Truck loading operation (-26-3)
   - Conditions 8 through 24 replaced condition 1 of the previous permit.

c. Heavy Oil truck loading operation (-27-2)
   - Conditions 10 through 25 and 33 replaced condition 1 of the previous permit.

Certify Compliance

By complying with the conditions in the requirements for these permit units, the applicant is certifying compliance with all applicable requirements.

Compliance schedule for new monitoring requirements

Not Applicable.

Permit Shield

The applicant is requesting a permit from the requirements of District Rule 4451. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4451 and a permit shield is granted from the requirements of this rule.

Pressure Relief Valves

40 CFR 60.593(d) states that equipment is in light liquid service if the percent evaporated is greater than 10 percent at 150^{o}C as determined by ASTM Method D-86. In addition, 40 CFR 60.485(e) defines light liquid service has showing that all the following conditions apply: (1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 °C. (2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 °C is equal to or greater than 20 percent by weight. (3) The fluid is a liquid at operating conditions.

Select most stringent requirement:

The proposed requirements for work practice standards are as follows:

Pressure relief valves (PRVs) in light liquid or heavy liquid service shall not leak in excess of 10,000 ppm above background when measured in the plane at the centroid of any atmospheric vent with a portable analyzer in accordance with EPA Method21.

All pressure relief valves in light liquid service shall be inspected for leakage with a portable analyzer in accordance with EPA Method 21 at least once every three (3) months.

Pressure relief valves in light liquid or heavy liquid service shall be monitored within 5 days with a portable analyzer in accordance with EPA Method 21 if evidence of a potential leak is found by visual, audible, olfactory, or any other detection methods.

Within three (3) days after any pressure relief valve in light liquid vents to atmosphere the operator shall inspect with a portable analyzer in accordance with EPA Method 21 any such pressure relief valve and shall repair any leak.

Within 15 days after detection any pressure relief valve in light liquid or heavy liquid service found to leak shall be repaired or vented to flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 95 percent efficient as measured by EPA Method 25.

A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the following best practices where practicable: tightening of bonnet bolts; replacement of bonnet bolts; tightening of packing gland nuts; injection of lubricant into lubricated packing.

If a pressure relief valve in light liquid or heavy liquid service cannot be repaired to a no-leak condition without requiring the shutdown of essential refinery operations, the following repair schedule shall apply: If the leak rate is less than ten (10) drops per minute the APCO shall be notified of the expected date of repair, not to exceed one (1) year or the date of the next process unit turnaround whichever is less and the actual date of repair. If the leak rate is greater than nine (9) drops per minute or 10,000 ppm measured using EPA Method 21, the following shall be required and the APCO shall be notified of an emergency repair, within 15 days after detection, to reduce the leak to less than ten (10) drops per minute or 10,000 ppm as methane measured using EPA Method 21, or the venting, within 30 days after detection, of the emission to a flare or vapor control system that satisfies the requirements of 40 CFR 60.18 or is at least 95 percent efficient as measured by EPA Method 25, or a demonstration, within 30 days after detection, that the repair schedules are infeasible. The demonstration shall include documentation that the components is an essential device and that no vapor control device that satisfies the requirements of 40 CFR 60.18 or is at least 95 percent efficient as measured by EPA Method 25 exists.

Every leaking PRV shall be affixed with a record of inspection which shall bear a legible record of all inspections for at least a fifteen month period or coded with the records kept in a centralized location.

Any leaking component shall be identified by affixing a weatherproof, readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until repair and reinspection documents compliance with the requirements of this rule.

The proposed requirements are at least as stringent as those imposed by District Rule 4451 and 40 CFR 60.482-8.

Compliance with the work practice standard of District Rule 4451:

This rule requires the following work practice standards for pressure relief valves:

Pressure relief valves (PRVs) shall not leak in excess of 10,000 ppm above background when measured in the plane at the centroid of any atmospheric vent with an instrument calibrated with methane.

All pressure relief valves shall be inspected for leakage at least once every three (3) months.

Within (3) days after any pressure relief valve vents to atmosphere the operator shall inspect with a portable hydrocarbon detection instrument any such pressure relief valve and shall repair any leak.

Within 15 days after detection any pressure relief valve found to leak shall be repaired or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 95 percent efficient as measured by EPA Method 25.

Every leaking PRV shall be affixed with a record of inspection which shall bear a legible record of all inspections for at least a fifteen month period or coded with the records kept in a centralized location.

Any leaking component shall be identified by affixing a weatherproof, readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until repair and reinspection documents compliance with the requirements of this rule.

If a pressure relief valve cannot be repaired to a no-leak condition without requiring the shutdown of essential refinery operations, the following repair schedule shall apply: If the leak rate is less than ten (10) drops per minute the APCO shall be notified of the expected date of repair, not to exceed one (1) year or the date of the next process unit turnaround whichever is less and the actual date of repair. If the leak rate is greater than nine (9) drops per minute or 10,000 ppm measure one (1) centimeter from the source, the following shall be required and the APCO shall be notified of an emergency repair, within 15 days after detection, to reduce the leak to less than ten (10) drops per minute or 10,000 ppm as methane measured one (1) centimeter from the source, or the venting, within 30 days after detection, of the emission to a flare or vapor control system that satisfies the requirements of 40 CFR 60.18 or

is at least 95 percent efficient as measured by EPA Method 25, or a demonstration, within 30 days after detection, that the repair schedules are infeasible. The demonstration shall include documentation that the components is an essential device and that no vapor control device that satisfies the requirements of 40 CFR 60.18 or is at least 95 percent efficient as measured by EPA Method 25 exists.

Compliance with the work practice standards of 40 CFR 60.482-8:

This rule requires the following work practice standards for pressure relief valves in light liquid or heavy liquid service.

Pressure relief devices in light liquid or heavy liquid service shall be monitored within 5 days by the method specified in 40 CFR 60.485(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

When a leak is detected, it shall be repaired as soon as practicable, but not later 15 calendar days after it is detected.

A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the following best practices where practicable: tightening of bonnet bolts; replacement of bonnet bolts; tightening of packing gland nuts; injection of lubricant into lubricated packing.

Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. The identification may be removed after it has been repaired.

The proposed requirements include these requirements and are therefore at least as stringent as 40 CFR 60.482-8.

Conditions ensuring compliance with applicable requirements

a. LPG truck loading operation (-25-3)

- Conditions 6 through 16 replaced condition 5 of the previous permit.

b. Heavy Gas Oil Truck loading operation (-26-3)

- Conditions 8 through 24 replaced condition 1 of the previous permit.

c. Heavy Oil truck loading operation (-27-2)

- Conditions 10 through 25 and 33 replaced condition 1 of the previous permit.

Certify Compliance

By complying with the conditions in the requirements for these permit units, the applicant is certifying compliance with all applicable requirements.

Compliance schedule for new monitoring requirements

Not Applicable.

Permit Shield

The applicant is requesting a permit from the requirements of District Rule 4451. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4451 and a permit shield is granted from the requirements of this rule.

Flanges and Threaded Connections

The proposed requirements for work practice standards are as follows:

Flanges and Threaded Connections service shall not leak in excess of 10,000 ppm above background when measured at a distance of one (1) centimeter of the potential source with an instrument calibrated with methane or drip liquid organic compounds at a rate of more than three (3) drops per minute.

Flanges in light liquid service shall be inspected for leakage with a portable analyzer in accordance with EPA Method 21 at least once every 12 months.

Threaded connections in light liquid service shall be inspected for leakage with a portable analyzer in accordance with EPA Method 21 at least once every three (3) months.

Flanges and threaded connectors shall be monitored within 5 days by EPA Method 21 if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the following best practices where practicable: tightening of bonnet bolts; replacement of bonnet bolts; tightening of packing gland nuts; injection of lubricant into lubricated packing.

When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected.

If any flange and threaded connection cannot be repaired to a no-leak condition without requiring the shutdown of essential refinery operations, the following repair schedule shall apply: If the leak rate is less than ten (10) drops per minute the APCO shall be notified of the expected date of repair, not to exceed one (1) year or the date of the next process unit turnaround whichever is less and the actual date of repair. If the leak rate is greater than nine (9) drops per minute or 10,000 ppm measured using EPA Method 21, the following shall be required and the APCO shall be notified of an emergency repair, within 15 days after detection, to reduce the leak to less than ten (10) drops per minute or 10,000 ppm as methane measured using EPA Method 21, or the venting, within 30 days after detection, of the emission to a flare or vapor control system that satisfies the requirements of 40 CFR 60.18 or is at least 95 percent efficient as measured by EPA Method 25, or a demonstration, within 30 days after detection, that the repair schedules are infeasible. The demonstration shall include documentation that the components is an essential device and that no vapor control device that satisfies the requirements of 40 CFR 60.18 or is at least 95 percent efficient as measured by EPA Method 25 exists.

Every leaking flange and threaded connection shall be affixed with a record of inspection which shall bear a legible record of all inspections for at least a fifteen month period or coded with the records kept in a centralized location.

A leaking component shall be identified by affixing a weatherproof, readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until repair and reinspection documents compliance with the requirement of this rule.

The proposed requirements are at least as stringent as those imposed by District Rule 4451 and 40 CFR 60.482-8.

Compliance with the work practice standards of District Rule 4451:

This rule requires the following work practice standards for flanges and threaded connections:

Flanges and Threaded Connections shall not leak in excess of 10,000 ppm above background when measured at a distance of one (1) centimeter of the potential source with an instrument calibrated with methane or drip liquid organic compounds at a rate of more than three (3) drops per minute.

Flanges shall be inspected at least once every 12 months.

Threaded connections shall be inspected for leakage at least once every three (3) months.

Every leaking flange and threaded connection shall be affixed with a record of inspection which shall bear a legible record of all inspections for at least a fifteen month period or coded with the records kept in a centralized location.

If any flange and threaded connection cannot be repaired to a no-leak condition without requiring the shutdown of essential refinery operations, the following repair schedule shall apply: If the leak rate is less than ten (10) drops per minute the APCO shall be notified of the expected date of repair, not to exceed one (1) year or the date of the next process unit turnaround whichever is less and the actual date of repair. If the leak rate is greater than nine (9) drops per minute or 10,000 ppm measure one (1) centimeter from the source, the following shall be required and the APCO shall be notified of an emergency repair, within 15 days after detection, to reduce the leak to less than ten (10) drops per minute or 10,000 ppm as methane measured one (1) centimeter from the source, or the venting, within 30 days after detection, of the emission to a flare or vapor control system that satisfies the requirements of 40 CFR 60.18 or is at least 95 percent efficient as measured by EPA Method 25, or a demonstration, within 30 days after detection, that the repair schedules are infeasible. The demonstration shall include documentation that the components is an essential device and that no vapor control device that satisfies the requirements of 40 CFR 60.18 or is at least 95 percent efficient as measured by EPA Method 25 exists.

A leaking component shall be identified by affixing a weatherproof, readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until repair and reinspection documents compliance with the requirement of this rule.

The proposed requirements include these requirements and are therefore at least as stringent as District Rule 4451.

Compliance with the work practice standards of 40 CFR 60.482-8:

This rule requires the following work practice standards for flanges and connectors:

Flanges and other connectors shall not leak equal to or greater than an instrument reading of 10,000 ppm as measured by EPA Method 21.

Flanges and other connectors shall be monitored within 5 days by EPA Method 21 if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the following best practices where practicable: tightening of bonnet bolts; replacement of bonnet bolts; tightening of packing gland nuts; injection of lubricant into lubricated packing.

A leak shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected.

Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. The identification on equipment may be removed after it has been repaired.

The proposed requirements are at least as stringent as 40 CFR 60.482-8.

Conditions ensuring compliance with applicable requirements

a. LPG truck loading operation (-25-3)
   - Conditions 6 through 16 replaced condition 5 of the previous permit.

b. Heavy Gas Oil Truck loading operation (-26-3)

- Conditions 8 through 24 replaced condition 1 of the previous permit.

c. Heavy Oil truck loading operation (-27-2)

- Conditions 10 through 25 and 33 replaced condition 1 of the previous permit.

Certify Compliance

By complying with the conditions in the requirements for these permit units, the applicant is certifying compliance with all applicable requirements.

Compliance schedule for new monitoring requirements

Not Applicable.

Permit Shield

The applicant is requesting a permit from the requirements of District Rule 4451. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4451 and a permit shield is granted from the requirements of this rule. See the following permit conditions:

Recordkeeping, and Test Methods for Valves, Pressure Relief Valves, Flanges, and Threaded Connections

District Rule 4451 and 40 CFR 60.485 and 60.486 have recordkeeping, and test method requirements for equipment in petroleum refineries.

Select most stringent requirement:

The proposed requirements for recordkeeping and test methods are as follows:

Recordkeeping

When a leak is detected from valves, PRVs, flanges, and threaded connection, the following information shall be recorded in a log and kept in a readily accessible location: (a) the instrument and operator

identification numbers and the equipment identification number. (b) the date the leak was detected, emission level (ppm) of leak, method of detection and the dates of each attempt to repair the leak. (c) Repair methods applied in each attempt to repair the leak. (d) Emission level (ppm) after each repair attempt. (e) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak. (f) the signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown. (g) the expected date of successful repair of the leak if a leak is not repaired within 15 days. (h) dates of process unit shutdown that occur while the equipment is unrepaired. (i) the date of successful repair of the leak and emission level of recheck.

The following information shall be recorded in a log and shall be kept in a readily accessible location: (a) a list of identification numbers for equipment subject to the requirements of this subpart GGG; (b) a list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 CFR 60.482-7(f); (c) a list of identification numbers for valves that are designated as unsafe-to-monitor, (d) an explanation for each valve stating why the valve is unsafe-to-monitor, and the plan for monitoring each valve; (e) a list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve; (f) total number of components inspected, and total number and percentage of leaking components found.

Copies of inspection log and support information shall be retained by the operator for a minimum of five (5) years after the date of an entry and be made available upon request to District personnel.

Test Methods

Leak detection shall be performed with a portable hydrocarbon detection instrument in accordance with EPA Method 21.

The proposed requirements are at least as stringent as those imposed by District Rule 4451 and 40 CFR 60.485 and 486.

Compliance with the recordkeeping and test methods of District Rule 4451:

This rule requires the following recordkeeping and test method:

Recordkeeping

Operator shall maintain an inspection log containing, at a minimum, the following: (a) name, location, type of components, and description of any unit where leaking components are found.(b) date of leak detection, emission level (ppm) of leak, and method of detection. (c) date and emission level of recheck after leak is repaired. (d) identification of leaks that cannot be repaired until next process unit turnaround.(e) total number of components inspected, and total number and percentage of leaking components found.

Copies of inspection log shall be retained by the operator for a minimum of two (2) years after the date of an entry.

Copies of the inspection log shall be made available upon request to District personnel.

Test Methods

Leak detection shall be performed with a portable hydrocarbon detection instrument in accordance with EPA Method 21.

The proposed requirements include these requirements and are therefore at least as stringent as District Rules 4451 and 4452.

Compliance with the recordkeeping and test methods of 40 CFR 60.485 and 60.486:

This rule requires the following recordkeeping and test method:

Recordkeeping

When a leak is detected from valves, PRVs, flanges, and threaded connection, the following information shall be recorded in a log and kept for 2 years in a readily accessible location: (a) the instrument and operator identification numbers and the equipment identification number. (b) the date the leak was detected and the dates of each attempt to repair the leak. (c) Repair methods applied in each attempt to repair the leak. (d) “Above 10,000” if the maximum instrument reading measured after each repair attempt is equal to or greater than 10,000 ppm. (e) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak. (f) the signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown. (g) the expected date of successful repair of the leak if a leak is not repaired within 15 days. (h) dates of process unit shutdown that occur while the equipment is unrepaired. (i) the date of successful repair of the leak.

The following information shall be recorded in a log and shall be kept in a readily accessible location: (a) a list of identification numbers for equipment subject to the requirements of this subpart GGG; (b) a list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 CFR 60.482-7(f); (c) a list of identification numbers for valves that are designated as unsafe-to-monitor, (d) an explanation for each valve stating why the valve is unsafe-to-monitor, and the plan for monitoring each valve; (e) a list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve; (f) total number of components inspected, and total number and percentage of leaking components found.

Test Method

EPA Method 21 shall be used to determine the presence of leaking sources.

The proposed requirements include these requirements and are therefore as stringent as 40 CFR 60.485 and 60.486.

Conditions ensuring compliance with applicable requirements

a. LPG truck loading operation (-25-3)
   - Conditions 6 through 16 replaced condition 5 of the previous permit.

b. Heavy Gas Oil Truck loading operation (-26-3)
   - Conditions 8 through 24 replaced condition 1 of the previous permit.

c. Heavy Oil truck loading operation (-27-2)
   - Conditions 10 through 25 and 33 replaced condition 1 of the previous permit.

Certify Compliance

By complying with the conditions in the requirements for these permit units, the applicant is certifying compliance with all applicable requirements.

Compliance schedule for new monitoring requirements

Not Applicable.

Permit Shield

The applicant is requesting a permit from the requirements of District Rule 4451. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4451 and a permit shield is granted from the requirements of this rule. See the following permit conditions:

4. District Rule 4452 – Pump and Compressor Seals at Petroleum Refineries and Chemical Plants

District Rule 4452 limits leaks from pumps and compressors and associated seals that may result in fugitive emissions of VOC at petroleum refineries and chemical plants. Inspection, repair and maintenance schedules, recordkeeping and administrative, and test methods are specified.

Compliance with the above requirements is assured by the following conditions in the requirements for these permit units.

a. LPG truck loading operation (-25-3)
- Conditions 17 through 23 replaced condition 6 of the previous permit.

b. Heavy Oil truck loading operation (-27-2)

- Conditions 26 through 33 replaced condition 2 of the previous permit.

The applicant is requesting a permit from the requirements of District Rule 4452. Compliance with permit conditions in the Operating Permit shall be deemed compliance with District Rule 4452 and a permit shield is granted from the requirements of this rule.

5. District Rule 4623 – Storage of Organic Liquids

a. 400 gallon fixed roof storage tank (-32-1)

Section 2.0 states that the requirements of District Rule 4623 are only applicable if the tank has a design capacity of greater than 1,100 gallons or used to store organic liquid has a true vapor pressure greater than or equal to 0.5 psia. This rule does not apply to this unit because the design capacity of this tank is 400 gallons.

b. 1,000 gallon fixed roof storage tank (-33-1)

Section 2.0 states that the requirements of District Rule 4623 are only applicable if the tank has a design capacity of greater than 1,100 gallons

or used to store organic liquid has a true vapor pressure greater than or equal to 0.5 psia. This rule does not apply to this unit because the design capacity of this tank is 1,000 gallons.

c. 1,200 gallon fixed roof storage tank (-41-1)

Section 5.6 provides requirements for fixed roof tanks. These requirements are in conditions 1 of the permit unit.

Section 6.3 requires accurate record keeping of liquids stored in each container, storage temperature and the Reid vapor pressure of such liquids. This requirement is in condition 10 of the permit unit.

Section 6.4.3 provides the required method of measuring TVP. This requirement is in condition 11 of the permit unit.

Section 6.4.4 provides an acceptable method of measuring the TVP of crude oil with API gravity less than 30, as determined by API 2547. This requirement is in condition 12 of the permit unit.

7. District Rule 4624 – Organic Liquid Loading

Pursuant to District Rule 4624, a Class 1 Organic Liquid Loading Facility is any facility loading 20,000 gallons or more on any one day of organic liquids (including gasoline) with a TVP of 1.5 psia or greater into tank trucks, trailers, or railroad tank cars. District Rule 4624, formerly District Rule 463.3, has been submitted to the EPA to replace each of the county rules in the SIP: Rules 412 (Fresno, Kings, Stanislaus, Merced, and San Joaquin), 413 (Kern and Tulare), and 419 (Madera).

District Rule 4621, sections 5.1 and 5.2, is applicable to gasoline delivery vessels with capacity greater than 120 gallons and contains general facility requirements regarding transfer to and storage of gasoline in stationary storage tanks.

Subpart XX is applicable to bulk gasoline terminals capable of loading greater than 20,000 gallons per day of gasoline, having a Reid vapor pressure of 4.0 or greater, into tank trucks.

These rules and regulations establish volatile organic compound (VOC) emission limits and work practice standards for gasoline loading facilities. The following analysis shows that the VOC emission requirements of District Rule 4624 are more stringent than the emission requirements of 40 CFR Subpart 60 and the county rules. Streamlining procedures, in accordance with White Paper Number 2 and as

documented in the following steps, are utilized to substitute the proposed set of requirements for the otherwise applicable requirements.

Step 1. Side-by-side Comparison of Applicable Requirements**:**

VOC								
CITATION:	**District Rule 4624**	**County Rules 412, (Merced, Stanislaus), 413 (Kern, Tulare), and 419 (Madera)**	**San Joaquin County Rule 412**	**Fresno County Rule 412**	**Kings County Rules 412**	**District Rule 4621, 5.1 and 5.2**	**Subpart XX**	**Proposed Requirements**
WORK PRACTICE STANDARDS SUPPORTING EMISSION LIMIT (E.L.)	•Delivery tanks which previously contained organic liquids with a TVP greater than 1.5 psia at loading conditions shall be filled only at loading facilities satisfying Sections 5.1 and 5.2. [4624, 5.3] •Facility shall be equipped with bottom loading and a vapor-collection-and-control system. [4624, 5.1.1] •Operate such that the pressure in the delivery tank being loaded does not exceed 18 inches water column pressure and 6 inches water column vacuum. [4624, 5.2]	• Loading facility equipped with vapor collection and disposal system. [412, 413, 419]	•Loading facility equipped with vapor collection and disposal system. [412(a)(1)]	•Loading facility equipped with vapor collection and disposal system. [412(C)(1)]	•Any gasoline delivery vessel into which gasoline vapors have been transferred shall be filled only at a facility with system preventing at least 95% of vapors displaced from entering atmosphere. [412(4)(a)]	• Any gasoline delivery vessel into which gasoline vapors have been transferred shall be filled only at a facility with system preventing at least 95% of vapors displaced from entering atmosphere. [4621, 5.2.2]	•Be equipped with a vapor collection system designed to collect the total organic compounds vapor displaced from tank trucks during product loading. [§60.502(a)] •Vapor collection system shall be designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack. [§60.502(d) •Vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 450 mm of water at which level the pressure vacuum vent shall be set. [§60.502(h) &(l)]	•Delivery tanks which previously contained organic liquids, including gasoline, with a TVP greater than 1.5 psia at loading conditions shall be filled only at loading facilities satisfying Sections 5.1 and 5.2. [4624, 5.3, 4621, 5.2.2 and 412(4)(a)] •Facility shall be equipped with bottom loading and a vapor collection and control system. [4624, 5.1.1] •Operate such that the pressure in the delivery tank being loaded does not exceed 18 inches water column pressure and 6 inches water column vacuum. [4624, 5.2]

EMISSION LIMIT	•VOC emissions shall not exceed 0.08 pound per 1000 gallons of organic liquid loaded. [4624, 5.1.1]	•Disposal system of displaced vapors during loading shall consist of one of the following: 1) system with 90% efficiency or 2) directs vapors to fuel gas system, or 3) with efficiency as great as 1 or 2. [412, 413, 419]	•Disposal system will consist of one of the following: 1) system which limits emissions to 0.6 lb VOC per 1000 gallons loaded, or 2) directs vapors to fuel gas system, or 3) with efficiency as great as 1 or 2. [412(a)(3)]	•Disposal system of displaced vapors during loading shall consist of one of the following: 1) system with 90% efficiency or 2) directs vapors to fuel gas system, or 3) with efficiency as great as 1 or 2. [412(C)(1)]	•Any gasoline delivery vessel into which gasoline vapors have been transferred shall be filled only at a facility with system preventing at least 95% of vapors displaced from entering atmosphere. [412(4)(a)]	• Any gasoline delivery vessel into which gasoline vapors have been transferred shall be filled only at a facility with system preventing at least 95% of vapors displaced from entering atmosphere. [4621, 5.2.2]	•VOC emissions shall not exceed 35 milligrams per liter of organic liquid loaded. [§60.502(b)]	•VOC emissions shall not exceed 0.08 pound per 1000 gallons of organic liquid loaded. [4624, 5.1.1]

WORK PRACTICE STANDARD NOT SUPPORTING E.L.	•Loading and vapor collection equipment maintained such that there are no liquid leaks in excess of 3 drops/min or vapor leaks in excess of 10,000 ppm. [4624, 5.3] •Loading device maintained to prevent liquid drainage in excess of 10 ml per average of 3 consecutive disconnects. [4624, 5.4] •Construction, reconstruction, or expansion of any top loading facility shall not be allowed. [4624, 5.5]	•Measures shall be taken to prevent liquid drainage from loading device. [412, 413, 419]	• No delivery vessel operated or loaded unless vessel is vapor tight, per ARB certification and test procedures. [412(b)] •Loading device maintained to prevent liquid drainage in excess of 10 ml per average of 3 consecutive disconnects. [412(a)(2)]	•No liquid drainage in excess of 10 ml per disconnect per average of 3 consecutive disconnects. [412(C)(4)] • No liquid leaks in excess of 22,000 ppm. [412(C)(4)] •New facilities shall be constructed with bottom loading systems. [412(C)(2)]	•None	• No gasoline delivery vessel shall be operated or loaded unless valid State of California decals, as required by section 41962 of the Health and Safety Code are displayed on the cargo tank. [4621, 5.2.1] • No gasoline delivery vessel operated or loaded unless vessel is vapor tight. [4621, 5.2.2] • The transfer of gasoline from any delivery vessel to any stationary storage container with 250 gallon capacity or more shall not be allowed unless container is equipped with a permanent submerged fill pipe and an ARB certified Phase I vapor recovery system. [4621, 5.1.1] • No gasoline shall be placed in any above-ground tank of 250 gallon capacity or more unless it is equipped with pressure-vacuum valve. [4621, 5.1.2]	•Monthly liquid and vapor leak inspections to be performed during loading. Each leak shall be repaired within 15 days of detection. [§60.502(j)] •Obtain vapor tightness documentation, as described in 60.505(b) for each truck loaded at a facility. [60.502(e)(1)] •Operator shall record the tank ID number as each tank is loaded, cross-check ID number with vapor tightness documentation file within 2 weeks, and take steps to assure nonvapor-tight tank trucks are not reloaded. [60.502(e)(2), (3), and (5)]	•Loading and vapor collection equipment shall be designed and operated such that there are no leaks. (leaks as defined in rule). [4624, 5.4] •Loading device shall have no excess organic liquid drainage at disconnections (excess drainage as defined in rule). [4624, 5.4] • Each leak shall be repaired within 15 days of detection. [§60.502(j)] • No gasoline delivery vessel shall be operated or loaded unless valid State of California decals, attesting to the vapor integrity of the tank, are displayed on the cargo tank. [4621, section 5.2.1] • No gasoline delivery vessel operated or loaded unless vessel is vapor tight. [4621, 5.2.2] •Construction, reconstruction, or expansion of any top loading facility shall not be allowed. [4624, 5.5] • The transfer of gasoline from any delivery vessel to any stationary storage container with 250 gallon capacity or more shall not be allowed unless container is equipped with a permanent submerged fill pipe and an ARB certified Phase I vapor recovery system. [4621, 5.1.1] • No gasoline shall be placed in any above-ground tank of 250 gallon capacity or more unless it is equipped with pressure-vacuum valve. [4621, 5.1.2]

MONITORING	•None	•None	•None	•None	•None	•None	•Monthly leak inspection. [§60.502(j)]	•Perform annual VOC emission test. [2520, 9.4.2] •Perform annual vapor collection and control system pressure tests. [2520, 9.4.2] •Perform monthly leak inspection and drainage inspection. Change to quarterly drainage inspections under certain conditions [2520, 9.4.2 and §60.502(j)]
RECORDKEEPING	•Maintain all records for a period of not less than two years. [4624, 6.1]	•None	•None	•None	•None	•None	•Tank truck vapor tightness per §60.502(e)(1) on file in a permanent form. [§60.505(a)] •Tank truck pressure test updates to file each year. [§60.505(b)] •Monthly leak inspection records maintained for two years. [§60.505(c) •Non-vapor-tight truck notifications maintained for 2 years. [§60.505(d)] •Records of replacements or additions of components maintained for 3 years. [§60.505(f)]	•Maintain all records for a period of not less than five years. [2520, 9.5.2]
REPORTING	•None	•None	•None	•None	•None	•None	•None	•None

TEST METHODS	• Leak detection with portable hydrocarbon detection instrument calibrated with methane (i.e. similar to EPA Method 21) [4624, 3.6] •Halogenated exempt compounds by ARB Method 432. [4624, 6.2.1] •VOC emissions by using 40CFR§60.503 and EPA Reference Methods 2A, 2B, 25A and 25B and ARB Method 432, or ARB Method 2-4. [4624, 6.2.2]	•None	•None	• Vapor and Liquid leak detection using CARB test procedure with gas detector [412(C)(4)]	•None	• Tank Truck vapor tightness verified by EPA Method 27. [4621, 6.2.3] • Vapor recovery compliance using ARB Method 202 [4621, 6.2.1]	•Leak detection by EPA Method 21. [§60.503(b)] •VOC emissions by EPA Method 25A or 25B and volume of air-vapor mixture by EPA method 2A or 2B at intervals and as averaged per 40CFR§60.503(c). • Tank Truck vapor tightness verified by EPA Method 27. [40CFR§60.503(c)]	•Halogenated exempt compounds by ARB Method 432. [4624, 6.2.1] •VOC emissions by using 40CFR§60.503 and EPA Reference Methods 2A, 2B, 25A and 25B and ARB Method 432, or ARB Method 2-4. [4624, 6.2.2] •Leak detection by EPA Method 21. [§60.503(b)] • Tank Truck vapor tightness verified by EPA Method 27. [4621, 6.2.3 and 40CFR§60.503(c)]

Step 2. Select most stringent emission limit and/or performance standard:

VOC Emission Limits

1) Mass VOC/volume Loaded Limit: The proposed TOC emission limit of 0.08 pound VOC/1000 gallons of organic liquid loaded is at least as stringent and expected to be the same limit allowed by District Rule 4624 for all source operations using this template. It is more stringent than the mass limits allowed by District Rule 4621 and the county rules[5], as indicated in the side-by-side comparison in Step 1. The following analysis shows the proposed limit is also more stringent than 40CFR§60.502(b) which limits emission of total organic compounds (TOCs) to less than 35 mg/L of gasoline loaded. The District definition of VOCs exempts certain TOCs from being included. However, according to the ARB Speciation Manual,[6] for Bulk Gasoline Storage and Transfer, (Profile Code 710, a composite of product-summer blend) there are no exempt compounds in gasoline vapors. CARB has also published a list of ratios of reactive organic compounds to total organic compounds for specific types of operations according to Source Classification Code (SCC). These ratios indicate gasoline vapors from gasoline marketing/loading are composed of 100% reactive or unexempt compounds (note natural gas and liquid petroleum gas loading racks are excluded in the TQF). Therefore for gasoline vapors, TOG composition equals VOC composition. The following calculation converts the CFR emission limit to similar units of measure for comparison to the District Rule 4624 limit:

$$\left(\frac{1\ part\ VOC}{1\ part\ TOC}\right)\left(\frac{35 mg\ TOC}{L\ organic\ liquid}\right)\left(\frac{3785.4\ L}{1000\ gal}\right)\left(\frac{g}{1000 mg}\right)\left(\frac{1 lb}{453.59\ g}\right) = \frac{0.29\ lb\ VOC}{1000\ gal\ organic\ liquid}$$

The District Rule 4624 VOC emission limit of 0.08 pound per 1000 gallons of organic liquid loaded is clearly more stringent than the mass VOC emission limit from 40CFR§60.502(b) for gasoline terminals calculated above. The proposed emission limit of 0.08 pound per 1000 gallons will insure the assumption that VOC is equal to TOC for these operations is valid and assures compliance with these requirements.

[5] San Joaquin and Kings counties allow several options for control of displaced VOC during loading. The District has chosen only to examine the 0.6 lb mass limit option allowed by these rules for comparison.

[6] State of California Air Resources Board. August 1991. Identification of Volatile Organic Compound Species Profiles. Vol. 1: ARB Speciation Manual. Second Ed. Sacramento, California.

2) Emission Limit Expressed as Control Efficiency: County rules 412 (Merced and Stanislaus), 413 (Kern and Tulare), and 419 (Madera) require a control device capable of 90%[7] efficiency. Fresno County Rule 412 requires a collection and control device with at least 90% efficiency for vapors displaced during loading. The 90% collection and control requirement is more stringent than the other county rules referenced here since it requires at least 90% efficiency for collection and control. District Rule 4621 and Kings County Rule 412 require any delivery vessel which previously contained gasoline vapors to be filled only at a loading facility equipped with a system that has 95% collection and control. This requirement is not necessarily more stringent than the 90% requirement, since it applies only to systems which are used to fill tanks which previously held gasoline. However, the proposed emission limit requirement of 0.08 lb TOC/1000 gallons loaded is more stringent than both the 90% and 95% control efficiency requirements, as demonstrated below:

90% Efficiency for Vapors Displaced:

$$L_L = 12.46\left(\frac{SPM}{T}\right)\left(1-\frac{eff}{100}\right)$$

where:
L_L = Loading losses from tank truck, pounds per 1000 gallons loaded (AP-42, 5.2, equation (1)
S = 0.5, worst case saturation factor from AP-42 table 5.2-1
P = 2.3, true vapor pressure of gasoline, worst case from AP-42, Table 7.1-2 and using Reid vapor pressure of 7 psia (from AP-42, 5.2), as worst case for gasoline at 40°F
M = 68 = molecular weight of gasoline vapors, from AP-42 table 7.1-2
T = 40°F = 500°R, worst case temperature of fluid during loading conditions
eff = 90%, overall reduction efficiency

Minimizing the numerator in SPM/T and maximizing the denominator will result in the worst case values (i.e. lowest emissions) for variables in the above equation. This will occur with the lowest saturation factor for loading clean cargo tank and lowest temperature loading temperature expected which results in the lowest true vapor pressure expected[8]. Loading losses for gasoline collection and control systems with 90% efficiency are calculated to be 1.9 lb VOC/1000 gallons loaded. AP-42 states this equation is approximate with a probable

[7] Merced, Fresno, Stanislaus, Kern, Tulare, and Madera counties allow several options for control of displaced VOC during loading. The District has chosen only to examine the control efficiency limit option allowed by these rules for comparison.
[8] Higher temperatures require a higher TVP to be used in the equation. The combination of lowest loading temperature and associated TVP at this temperature does result in the lowest factor for use in this equation. See AP-42, Table 7.1-2.

error of ± 30%. Assuming this calculation is 30% high, at best, emissions are not expected to be less than 1.36 lb VOC/1000 gallons with 90% control. This value is 17 times greater than that allowed by the proposed emission limit of 0.08 lb TOC/1000 gallons loaded. Therefore, the proposed limit is more stringent and assures compliance.

95% Efficiency for Vapors In Tanks Which Previously Held Gasoline: The same equation above is used to determine loading loss, however the saturation factor, S is equal to 1.0 for dedicated vapor balance service (i.e. gasoline vapors transferred into tank during unloading). With 95% control and assuming 30% error in the equation, the minimum loading loss is not expected to be less than 0.14 lb VOC/1000 gallons. This value is approximately 2 times greater than that allowed by the proposed emission limit of 0.08 lb TOC/1000 gallons loaded. The proposed limit is more stringent and assures compliance when tanks containing gasoline vapors are loaded by any unit using this template. However this general source requirement is necessary to prevent loading of any such tank using other racks which do not meet these requirements. This standard for loading into gasoline delivery vessels has been combined with the similar work practice standard for organic liquid delivery vessels from District Rule 4624, section 5.3. The proposed standard is more stringent for loading gasoline at Class 1 facilities, as proven above, and as stringent for Class 2 facilities.

Work Practice Standards Not Supporting An Emissions Limit
The proposed work practice standards not in support of an emission limit consist of the following:

1. Loading and vapor collection shall be designed and operated such that there are no leaks and no excess organic liquid drainage at disconnections (leaks and excess drainage as defined in Rule 4624).

2. Each leak shall be repaired within 15 days of detection.

3. No gasoline delivery vessel shall be operated or loaded unless valid State of California decals, attesting to the vapor integrity of the tank, are displayed on the cargo tank.

4. No gasoline delivery vessel shall be used or operated unless it is vapor tight.

5. Construction, reconstruction, or expansion of any top loading facility shall not be allowed.

6. The transfer of gasoline from any delivery vessel to any stationary storage container with 250 gallon capacity or more shall not be allowed unless container is equipped with a permanent submerged fill pipe and an ARB certified Phase I vapor recovery system.

7. No gasoline shall be placed in any aboveground tank of 250 gallon capacity or more unless it is equipped with pressure-vacuum valve.

These proposed work practice standards are more stringent than those of 40CFR 60 Subpart XX and the county rules as demonstrated below.

District Rule 4621: This rule has 4 work practice standards not in support of an emissions limit. These work practice standards are included in the proposed standards. Therefore the proposed standards are as stringent as District Rule 4621.

District Rule 4624: This rule has 3 work practice standards not in support of an emissions limit. Two of the work practice standards address leaks and liquid drainage. The proposed conditions are identical to the leak and drainage requirements of this rule. The third standard prohibits the source from constructing, reconstructing, or expanding any top loading facility. This general source requirement is included as a template condition to assure compliance with the rule. The proposed work practice standards are as stringent as District Rule 4624.

County Rules 412 (Fresno, Kings, Stanislaus, Merced, and San Joaquin), 413 (Kern and Tulare), and 419 (Madera): These rules, combined, contain 5 work practice standards not in support of an emissions limit. Four of the standards address leaks and liquid drainage. The proposed standards requiring no leaks in the loading and vapor collection system (vapor detected in excess of 10,000 ppm and liquid in excess of 3 drops/minute) and no leaks in excess of 10 mls at disconnection are as stringent or more stringent than those required by the county rules, as shown in the Step 1 comparison table. The fourth county standard prohibits loading into delivery vessels unless they have valid State of California decals which attest to the vapor integrity of the tank, pursuant to California Air Resources Board (CARB) procedures. The proposed standard prohibits operation or loading of a gasoline delivery vessel unless valid State of California decals are displayed. Section 41962 of the California Health and Safety Code gives authority to CARB to establish performance standards and test procedures to be performed annually for gasoline cargo tanks. The California Code of Regulations, Title 17, subchapter 8, Article 1, section 94004, Certification of Vapor Recovery Systems - Gasoline Cargo Tanks, refers to the CARB's "Certification and Test

Procedures for Vapor Recovery Systems of Gasoline Cargo Tanks". This CARB publication contains the applicable test procedures and performance standards, which are described in this template (specifically CP-204, TP-204.1, TP-204.2). CP-204 contains the performance standards and other certification requirements. TP-204.1 is a 5-minute pressure-vacuum decay test, which is similar to EPA Method 27. Annual internal vapor valve testing is also required. Tanks which pass this annual test are issued a state decal which is nonremovable and must be displayed on the cargo tank. The state also randomly monitors cargo tanks at gasoline loading facilities using either a hydrocarbon detection method or a 1-minute pressure decay test (TP-204.2), to assist in assuring tank integrity is maintained throughout the year. Cargo tanks unable to pass these spot tests are removed from service until repaired and able to pass required vapor integrity tests. The state decals are nontransferable and nonremovable and verify the delivery tank has been certified using ARB procedures. This proposed work practice standard is as stringent as the requirements of the combined county rules.

8. 40 CFR 60, Subsection XX:

This regulation contains work practice standards requiring cross checking of gasoline tank truck ID numbers with vapor tightness documentation files within 2 weeks of loading. It also requires that steps be taken to assure nonvapor tight tanks are not reloaded at the facility, though it does not specify what these steps are. The proposed standards prohibit operation or loading of a gasoline delivery vessel unless valid State of California decals are displayed.
As discussed above under compliance with County Rules 412, the State of California has strict requirements regarding gasoline cargo tanks, as specified in CARB's "Certification and Test Procedures for Vapor Recovery Systems of Gasoline Cargo Tanks". It requires annual tank pressure-vacuum decay and internal vapor valve testing, which are more stringent than the requirements of 40 CFR 60, Subsection XX. To pass this test, tanks cannot lose more than 1/2 to 1.25 inches of pressure in 5 minutes, depending on the size of the cargo tank container. This is at least twice as strict as federal requirements (3.0 inches for any size tank). Tanks which pass this annual test are issued a state decal which must be displayed on the cargo tank. The state also randomly monitors cargo tanks at gasoline loading facilities using either a hydrocarbon detection method, as reliable as EPA Method 21, or a 1-minute pressure decay test to assist in assuring tank integrity is maintained throughout the year. Tank trucks unable to pass these spot tests are removed from service until repaired and able to pass required vapor integrity tests. This is more stringent than the requirements of 40 CFR 60, Subsection XX

concerning tank vapor integrity. In addition, State decals are nontransferable and nonremovable and verify the delivery tank has been certified using ARB procedures and is vapor tight. The proposed standard is also more stringent than the work practice standards of 40 CFR 60, Subsection XX, since facilities can immediately determine if a tank has been certified/documented vapor tight and not load any truck without such certification, as verified by the state decal. Additional monitoring, recordkeeping and reporting concerning tank truck vapor tightness is unnecessary for gasoline tank trucks.

Subsection XX also requires monthly liquid and vapor leak inspections and for detected leaks to be repaired within 15 days, which are identical to the proposed monitoring and work practice standards concerning leaks.

Step 3. Conditions ensuring compliance with applicable requirements

a. LPG truck loading operation (-25-3)
- Conditions 25 through 27 and 32 through 44 were included as requirements of this permit unit.

b. Heavy Gas Oil Truck loading operation (-26-3)
- Section 4.3 of this rule provides an exemption for loading organic liquids with TVP at actual loading temperature of less than 1.5 psia. Condition 1 of this permit limits RVP to less than 0.0006 psia which is less than 1.5 psia, therefore this rule does not apply to this unit.

c. Heavy Oil truck loading operation (-27-2)
- Section 4.2 of this rule provides an exemption for loading organic liquids subject to the requirements of District Rule 4621. This unit is subject to the requirements of District Rule 4621; therefore this rule does not apply to this unit.

Step 4. Certify compliance

By complying with the conditions in the requirements for these permit units, the applicant is certifying compliance with all applicable requirements.

Step 5. Compliance schedule for new monitoring requirements

Not Applicable.

Step 6. Request for permit shield

Not Applicable.

9. District Rule 4662 - Organic Solvent Degreasing Operations
District Rule 4662 limits VOC and hazardous air pollutant emissions from organic solvent degreasing operations and to provide the administrative requirements for recording and measuring emissions.

District Rule 4662 (amended 9/19/1991) is a SIP approved rule and exempts any degreaser which has an open top surface area of less than 1.0 square foot.

a. Solvent Degreaser (-46-1)

- Condition 2 of the requirements for these permit units limits the open top surface area to less than 1.0 square foot and, therefore, exempts these units from the requirements of this rule.
- Condition 3 of the requirements for these permit units requires recordkeeping to assure compliance with the exemption from District Rule 4662.

10. 40 CFR Part 60 Subpart J - Standards of Performance for Petroleum Refineries
The provisions of this subpart are applicable to the following affected facilities in petroleum refineries: fluid catalytic cracking unit catalyst regenerators, fuel gas combustion devices, and all Claus sulfur recovery plants except Claus plants of 20 long tons per day (LTD) or less. The Claus sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

None of the units are fluid catalytic cracking unit catalyst regenerators, fuel gas combustion devices, or Claus sulfur recovery plants therefore the requirements of 40 CFR Part 60 Subpart J - Standards of Performance for Petroleum Refineries do not apply to these units.

a. LPG truck loading operation (-25-3)
b. Heavy Gas Oil Truck loading operation (-26-3)
c. Heavy Oil truck loading operation (-27-2)
d. 400 gallon fixed roof storage tank (-32-1)
e. 1,000 gallon fixed roof storage tank (-33-1)
f. 1,200 gallon fixed roof storage tank (-41-1)
g. Solvent Degreaser (-46-1)

X. PERMIT SHIELD

A permit shield legally protects a facility from enforcement of the shielded regulations when a source is in compliance with the terms and conditions of the Operating Permit. Compliance with the terms and conditions of the Operating Permit is considered compliance with all applicable requirements upon which those

conditions are based, including those that have been subsumed. The applicant has requested a permit shield for District Rules 4451 and 4452 and has been included on permit units S-34-25-3, -26-3, and-27-2.

XI. PERMIT CONDITIONS

See attached draft Operating Permits.

IC Engines

I. EQUIPMENT LISTING

The following table is a list of the equipment included in this category:

Permit Unit #	Equipment Description
S-34-28	305 BHP DIESEL FIRED I.C. ENGINE #88-P31-G SERVING FIREWATER PUMP
S-34-29	305 BHP DIESEL FIRED I.C. ENGINE #88-P32-G SERVING FIREWATER PUMP
S-34-37	443 BHP DIESEL FIRED CATERPILLAR EMERGENCY/STANDBY I.C. ENGINE WITH TURBOCHARGER, AFTERCOOLER, AND POSITIVE CRANKCASE VENTILATION SYSTEM DRIVING ELECTRICAL GENERATOR (NORTH, MODEL# 340GB DI, SERIAL# 4RGO1495)
S-34-38	443 BHP DIESEL FIRED CATERPILLAR EMERGENCY/STANDBY I.C. ENGINE WITH TURBOCHARGER, AFTERCOOLER, AND POSITIVE CRANKCASE VENTILATION SYSTEM DRIVING ELECTRICAL GENERATOR (SOUTH, MODEL# 340GB DI, SERIAL# 4RGO1486)
S-34-43	115 BHP DIESEL FIRED DETROIT EMERGENCY/STANDBY IC ENGINE (MODEL 5063-7000) DRIVING A 600 CFM INGERSOLL RAND COMPRESSOR
S-34-44	120 BHP DETROIT DIESEL, DIESEL-FIRED EMERGENCY I.C. ENGINE USED TO POWER A COMPRESSOR
S-34-45	250 BHP JOHN DEERE MODEL 6081AF001 EMERGENCY/STANDBY DIESEL FIRED IC ENGINE EQUIPPED WITH TURBOCHARGER, AFTERCOOLER, AND POSITIVE CRANKCASE VENTILATION SYSTEM, DRIVING A 150 KW KOHLER MODEL 150R0ZJ ELECTRICAL GENERATOR

II. GENERAL PERMIT TEMPLATE USAGE

The applicant has chosen not to use any model general permit Templates for the equipment listed above.

III. SCOPE OF EPA AND PUBLIC REVIEW

Equilon Enterprises LLC has not requested to utilize model general permit templates for this type of equipment. All terms and conditions from the proposed permits are subject to EPA and public review.

IV. APPLICABLE REQUIREMENTS ADDRESSED BY GENERAL PERMIT TEMPLATES

The applicant has not proposed to utilize any model general permit templates. All applicable requirements are explicitly addressed in the permit outside of the general permit templates.

V. APPLICABLE REQUIREMENTS NOT ADDRESSED BY GENERAL PERMIT TEMPLATES

District New and Modified Stationary Source Review Rule

District Rule 2520, Sections 9.3.2 and 9.4.2, Federally Mandated Operating Permits (Adopted June 15, 1995)

District Rule 4102, Nuisance (Amended December 17, 1992)

District Rule 4201, Particulate Matter Concentration (Amended December 17, 1992)

District Rule 4701, Internal Combustion Engines (Amended November 12, 1998)

District Rule 4801, Sulfur Compounds (Amended December 17, 1992) (Non SIP replacement for Kern County Rule 407)

VI. REQUIREMENTS NOT FEDERALLY ENFORCEABLE

For each Title V source, the District issues a single permit that contains the Federally Enforceable requirements, as well as the District-only requirements. The District-only requirements are not a part of the Title V Operating Permits. The terms and conditions that are part of the facility's Title V permit are designated as Federally Enforceable Through Title V Permit.

District Rule 4102, Nuisance (Amended December 17, 1992)

- For the equipment included in this section, condition 40 of the facility wide requirements, S-34-0-1 is based on this rule and is not Federally Enforceable through Title V.

VII. COMPLIANCE

A. Requirements Addressed by Model General Permit Templates

The applicant is not proposing to use a general permit template for this category of permit units. Compliance with all federally applicable requirements will be addressed in the following Section of this engineering evaluation.

B. Requirements Not Addressed by Model General Permit Templates

1. New and Modified Stationary Source Review Rule

a. 305 hp Diesel-Fired IC Engine Serving firewater Pump (S-34-28-1)

Permit unit S-34-28-1 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permits.

- Condition 1 of the PTO has been included as condition 1 of the requirements for this permit unit,
- Condition 2 of the PTO has been included as condition 22 of the facility wide permit, S-34-0-1,
- Condition 3 of the PTO has been included as condition 2 of the requirements for this permit unit,
- Condition 4 of the PTO has been included as condition 3 of the requirements for this permit,
- Condition 5 of the PTO has been included as condition 8 of the requirements for this permit unit with the record retention requirement increased from two to five years to comply with District Rule 2520, 9.5.2.

b. 305 hp Diesel-Fired IC Engine Serving firewater Pump (S-34-28-1)

Permit unit S-34-29-1 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permits.

- Condition 1 of the PTO has been included as condition 1 of the requirements for this permit unit,
- Condition 2 of the PTO has been included as condition 22 of the facility wide permit, S-34-0-1,
- Condition 3 of the PTO has been included as condition 2 of the requirements for this permit unit,
- Condition 4 of the PTO has been included as condition 3 of the requirements for this permit,
- Condition 5 of the PTO has been included as condition 8 of the requirements for this permit unit with the record retention requirement increased from two to five years to comply with District Rule 2520, 9.5.2.

c. 443 hp Diesel-Fired Emergency Standby IC Engine (S-34-37-2)

Permit unit S-34-37-2 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO has been included as condition 2 of the requirements for this permit unit,
- Condition 2 of the PTO has been included as condition 3 of the requirements for this permit unit,
- Condition 3 of the PTO has been included as condition 8 of the requirements for this permit,
- Condition 4 of the PTO has been included as condition 9 of the requirements for this permit,
- Condition 5 of the PTO has been included as condition 1 of the requirements for this permit,
- Condition 6 of the PTO has been included as condition 4 of the requirements for this permit,
- Condition 7 of the PTO has been included as condition 10 of the requirements for this permit unit with the record retention requirement increased to five years to comply with District Rule 2520, 9.5.2.

d. 443 hp Diesel-Fired Emergency Standby IC Engine (S-34-38-2)

Permit unit S-34-38-2 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO

were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO has been included as condition 2 of the requirements for this permit unit,
- Condition 2 of the PTO has been included as condition 3 of the requirements for this permit unit,
- Condition 3 of the PTO has been included as condition 8 of the requirements for this permit,
- Condition 4 of the PTO has been included as condition 9 of the requirements for this permit,
- Condition 5 of the PTO has been included as condition 1 of the requirements for this permit,
- Condition 6 of the PTO has been included as condition 4 of the requirements for this permit,
- Condition 7 of the PTO has been included as condition 10 of the requirements for this permit unit with the record retention requirement increased to five years to comply with District Rule 2520, 9.5.2.

e. 115 hp Diesel-Fired Emergency Standby IC Engine (S-34-43-2)

Permit unit S-34-43-2 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO has been included as condition 22 of the facility wide permit, S-34-0-1,
- Condition 2 of the PTO has been included as condition 1 of the requirements for this permit unit,
- Condition 3 of the PTO has been included as condition 2 of the requirements for this permit,
- Condition 4 of the PTO has been included as condition 3 of the requirements for this permit,
- Condition 5 of the PTO has been included as condition 8 of the requirements for this permit unit with the record retention requirement increased from two years to five years to comply with District Rule 2520, 9.5.2,
- Condition 6 of the PTO has been included as condition 9 of the requirements for this permit.

f. 120 hp Diesel-Fired Emergency Standby IC Engine (S-34-44-1)

Permit unit S-34-43-1 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO has been included as condition 22 of the facility wide permit, S-34-0-1,
- Condition 2 of the PTO has been included as condition 1 of the requirements for this permit unit,
- Condition 3 of the PTO has been included as condition 3 of the requirements for this permit,
- Condition 4 of the PTO has been included as condition 8 of the requirements for this permit unit with the record retention requirement increased from two years to five years to comply with District Rule 2520, 9.5.2,
- Condition 5 of the PTO has been included as condition 9 of the requirements for this permit.

g. 250 hp Diesel-Fired Emergency Standby IC Engine (S-34-45-2)

Permit unit S-34-45-2 was subject to the District NSR Rule at the time the applicant applied for Authority to Construct (ATC). In accordance with the White Paper for streamlined Development of Part 70 Permit Applications, dated July 10, 1995, conditions from the resulting PTO were addressed to define how NSR permit terms should be incorporated into the Title V permit.

- Condition 1 of the PTO has been included as condition 22 of the facility wide permit, S-34-0-1,
- Condition 2 of the PTO has been included as condition 9 of the requirements for this permit unit,
- Condition 3 of the PTO has been included as condition 8 of the requirements for this permit,
- Condition 4 of the PTO has been included as condition 1 of the requirements for this permit unit with the record retention requirement increased from two years to five years to comply with District Rule 2520, 9.5.2,
- Condition 5 of the PTO has been included as condition 2 of the requirements for this permit,

- Condition 6 of the PTO has been included as condition 3 of the requirements for this permit,
- Condition 7 of the PTO has been included as condition 4 of the requirements for this permit,
- Condition 8 of the PTO has been included as condition 10 of the requirements for this permit unit with the record retention requirement increased from two years to five years to comply with District Rule 2520, 9.5.2,
- Condition 9 of the PTO has been included as condition 11 of the requirements for this permit.

2. District Rule 1070, Inspections - (Non SIP replacement for Kern County Rule 107)

District Rule 1070 has been submitted to the EPA to replace Kern County APCD Rule 107. The requirements of these rules are compared below in Table 1, showing that the District Rule is at least as stringent as the County Rule.

Table 1 - Comparison of District Rule 1070 to Kern County Rule 107

REQUIREMENTS	District Rule 1070	Kern County Rule 107
Inspections shall be made by the enforcement agency for the purpose of obtaining information necessary to determine whether air pollution sources are in compliance with applicable rules and regulations.	✓	✓
The District has authority to require record keeping, to make inspections and to conduct tests of air pollution sources.	✓	✓

Section 4.0 of this rule states district's authority to require record keeping, to make inspections, and to conduct tests of air pollution sources.

Inspections and recordkeeping requirements of this rule are discussed in this evaluation, Section 4, *District Rule 2520 Section 9.4.2* and Section 6, *District Rule 4701*, below.

3. District Rule 2010, Permits Required

District Rule 2010 sections 3.0 and 4.0 require any person building, modifying or replacing any operation that may cause the issuance of air contaminants to apply for an Authority to Construct (ATC) from the District in advance. The ATC will remain in effect until the Permit to Operate (PTO) is granted.

a. 115 hp Diesel-Fired Emergency Standby IC Engine (S-34-43-2)

- Condition 9 of the requirements for this permit unit assures compliance with this rule,

b. 120 hp Diesel-Fired Emergency Standby IC Engine (S-34-44-1)

- Condition 9 of the requirements for this permit unit assures compliance with this rule,

c. 250 hp Diesel-Fired Emergency Standby IC Engine (S-34-45-2)

- Condition 11 of the requirements for this permit unit assures compliance with this rule,

4. District Rule 2520, Sections 9.3.2 and 9.4.2, Federally Mandated Operating Permits

Section 9.3.2

This section requires that periodic monitoring and/or recordkeeping be performed if none is associated with a given emission limit to ensure compliance and will be supported by the following conditions in the requirements of these permit units.

305 hp Diesel-Fired IC Engine Serving firewater Pump (S-34-28-1)
305 hp Diesel-Fired IC Engine Serving firewater Pump (S-34-29-1)
443 hp Diesel-Fired Emergency Standby IC Engine (S-34-37-1)
443 hp Diesel-Fired Emergency Standby IC Engine (S-34-38-2)
115 hp Diesel-Fired Emergency Standby IC Engine (S-34-43-2)
120 hp Diesel-Fired Emergency Standby IC Engine (S-34-44-1)
250 hp Diesel-Fired Emergency Standby IC Engine (S-34-45-2)

- Conditions 5 and 6 of the requirements for these permit units assure compliance with this rule.

Section 9.4.2

This section requires retention of records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, or report and will be supported by the following conditions in the requirements of these permit units.

a. 305 hp Diesel-Fired IC Engine Serving firewater Pump (S-34-28-1)

- Condition 8 of the requirements for this permit unit assures compliance with this rule.

b. 305 hp Diesel-Fired IC Engine Serving firewater Pump (S-34-29-1)

- Condition 8 of the requirements for this permit unit assures compliance with this rule.

c. 443 hp Diesel-Fired Emergency Standby IC Engine (S-34-37-1)

- Condition 10 of the requirements for this permit unit assures compliance with this rule.

d. 443 hp Diesel-Fired Emergency Standby IC Engine (S-34-38-2)

- Condition 10 of the requirements for this permit unit assures compliance with this rule.

e. 115 hp Diesel-Fired Emergency Standby IC Engine (S-34-43-2)

- Condition 8 of the requirements for this permit unit assures compliance with this rule.

f. 120 hp Diesel-Fired Emergency Standby IC Engine (S-34-44-1)

- Condition 8 of the requirements for this permit unit assures compliance with this rule.

g. 250 hp Diesel-Fired Emergency Standby IC Engine (S-34-45-2)

- Condition 10 of the requirements for this permit unit assures compliance with this rule.

5. District Rules 4201, 3.1, Particulate Matter Concentration

Rules 402 (Madera) and 404 (in all seven remaining counties in the San Joaquin Valley) are replaced by Unified District Rule 4201.

EPA issued a relative stringency finding, dated August 20, 1996, stating that District Rule 4201 is more stringent than SIP approved Kern County Rule 404. Section 3.0 of District Rule 4201 requires emissions to be at or below 0.1 grains of particulate matter per dry standard cubic foot of exhaust gas.

Section 3.1 requires emissions to be at or below 0.1 grain of particulate matter per dry standard cubic foot of exhaust gas. Results from source tests of diesel-fired internal combustion (IC) engines generally indicate emission rates from these units are less than the allowable limit of 0.1 grain/dscf. Of the tests available at the time of this writing, most were in the range of 0.042 to 0.061 grain/dscf, with a low of 0.020 grain/dscf, and a high of 0.092 grain/dscf. However, although the above testing is sufficient to assume that IC engines using this template comply with the 0.1 grain/dscf limit, the data is insufficient to prove compliance in all cases.

Therefore, periodic monitoring will be required in the form of source testing, unless the engine is an emergency or backup IC engine operating less than 200 hours per year. If the initial test results for PM emissions are measured to be less than 0.06 grain/dscf, testing will be required at least once every 5 years. Otherwise, testing shall occur not less than once every 24 months. Test results from an engine that represents a group of engines in terms of rated brake horsepower, engine make and series, operational conditions, fuel used, and control method, shall satisfy this condition provided this group of engines is owned and operated by a single owner/operator.

Since the considered engines are the engine are emergency or backup IC engine operating less than 200 hours per year, the requirements of this rule shall be satisfied with the permit conditions listed below.

305 hp Diesel-Fired IC Engine Serving firewater Pump (S-34-28-1)
305 hp Diesel-Fired IC Engine Serving firewater Pump (S-34-29-1)
443 hp Diesel-Fired Emergency Standby IC Engine (S-34-37-1)
443 hp Diesel-Fired Emergency Standby IC Engine (S-34-38-2)
115 hp Diesel-Fired Emergency Standby IC Engine (S-34-43-2)
120 hp Diesel-Fired Emergency Standby IC Engine (S-34-44-1)
250 hp Diesel-Fired Emergency Standby IC Engine (S-34-45-2)

- Condition 1 of the requirements for each permit unit included in this section assures compliance with this rule.

6. <u>District Rule 4701, Internal Combustion Engines (Amended November 12, 1998)</u>

Rule 4701 Section 3.19 defines standby engines as Internal Combustion engine used exclusively for non-utility electric power generation or any other emergency engine, approved by APCO, and limited by permit condition to operate no more than 200 hours per calendar year for non-emergency purposes and not used in conjunction with any voluntary utility demand reduction program.

305 hp Diesel-Fired IC Engine Serving firewater Pump (S-34-28-1)
305 hp Diesel-Fired IC Engine Serving firewater Pump (S-34-29-1)
443 hp Diesel-Fired Emergency Standby IC Engine (S-34-37-1)
443 hp Diesel-Fired Emergency Standby IC Engine (S-34-38-2)
115 hp Diesel-Fired Emergency Standby IC Engine (S-34-43-2)
120 hp Diesel-Fired Emergency Standby IC Engine (S-34-44-1)
250 hp Diesel-Fired Emergency Standby IC Engine (S-34-45-2)

For equipments included in this section, conditions 2 and 3 of the requirements for the following permit units assures compliance with this rule:

- For the equipment included in this section, conditions 2 and 3 of the requirements for the following permit units assure compliance with this rule.

7. District Rule 4801, Sulfur Compounds, County Rule 404 (Madera), 406 (Fresno) and 407 (all six remaining counties in the San Joaquin Valley)

District Rule 4801 has been submitted to the EPA to replace Kern County Rule 407, which is in the SIP. District Rule 4801 is as stringent as Kern County Rule 407, as shown on Table 5.

Table 4 - Comparison of District Rule 4801 and Kern County Rule 407

REQUIREMENT	District Rule 4801	Kern County 407
a person shall not discharge into the atmosphere sulfur compounds exceeding in concentration at the point of discharge 0.2 percent by volume calculated as sulfur dioxide on a dry basis averaged over 15 consecutive minutes.	✓	✓
EPA Method 8 and ARB Method 1-100 shall be used to determine such emissions.	✓	

These county rules contain a limit on sulfur compounds. The limit at the point of discharge is 0.2 percent by volume, 2000 ppmv, calculate as sulfur dioxide (SO_2), on a dry basis averaged over 15 consecutive minutes. The maximum fuel sulfur content that can be combusted in a diesel-fired IC engines to comply with the sulfur emission rate of 2000 ppmv is calculated as follows

Diesel Fired IC Engines:

The maximum fuel sulfur content that can be combusted in a diesel-fired IC engines to comply with the sulfur emission rate of 2000 ppmv is calculated as follows:

Maximum fuel sulfur content of diesel to assure compliance with Rule 4801:

$$\frac{\left(137{,}000\frac{Btu}{gal}\right)\times\left(\frac{9190 dscf}{10^6\,Btu}\right)\times\left(32.06\frac{gS}{mol}\right)\times\left(0.002\frac{molS}{molexhaust}\right)\times\left(28.317\,\frac{L}{cf}\right)}{\left(23.6\,\frac{L}{mol}\right)\times\left(7.05\,\frac{lb}{gal}\right)\times\left(453.59\,\frac{g}{lb}\right)} = 0.030\frac{lbS}{lbDiesel}$$

where,

$\left(\frac{9190\text{ dscf}}{10^6\text{ Btu}}\right)$ = F - Factor for Diesel (40 CFR Appendix A Table 19-1)

137,000 = Heat content of diesel (AP42, Appendix A)
7.05 = density of diesel (AP42, Appendix A)
23.6 = Volume 1 mole of gas occupies at standard condition (1 atm, 15.5 °C)
32 = Molecular weight of sulfur

All of the units covered by this section shall not exceed sulfur compound emissions of 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. Diesel fuel with a sulfur content of less than 3.0% by weight will satisfy the conditions of District Rule 4801. IC engines must be fired on Air Resources Board quality diesel fuel with maximum sulfur content 0.05% by weight. The use of this low sulfur diesel assures compliance with each county's rule. Testing and recordkeeping requirements assure this limit is met.

Rules 406 (Fresno), 404 (Madera), 407 (in all six remaining counties in the San Joaquin Valley) have been submitted to the EPA and are currently included in the SIP.

The following permit conditions are listed on permits to assure compliance with this rule.

305 hp Diesel-Fired IC Engine Serving firewater Pump (S-34-28-1)
305 hp Diesel-Fired IC Engine Serving firewater Pump (S-34-29-1)
443 hp Diesel-Fired Emergency Standby IC Engine (S-34-37-1)
443 hp Diesel-Fired Emergency Standby IC Engine (S-34-38-2)
115 hp Diesel-Fired Emergency Standby IC Engine (S-34-43-2)
120 hp Diesel-Fired Emergency Standby IC Engine (S-34-44-1)
250 hp Diesel-Fired Emergency Standby IC Engine (S-34-45-2)

- Condition 7 of the requirements for these permit units assures compliance with this rule.

ATTACHMENT A - DETAILED FACILITY PRINTOUT

ATTACHMENT B - INSIGNIFICANT ACTIVITIES OR EQUIPMENT

The following exempt equipment was identified by Equilon Enterprises, LLC (S-34) on TVFORM-003, Insignificant Activities.

Exemption Category	**Rule 2020 Citation**	
Structure or incinerator associated with a structure designed as a dwelling for 4 families or less.	4.2.3	
Use of less than 2 gal/day of graphic arts materials.	5.4	✓
Natural gas or LPG-fired boilers or other indirect heat transfer units of 5 MMBtu/hr or less.	5.1.1	✓
Piston-type internal combustion engine with maximum continuous rating of 50 braking horsepower (bhp) or less.	5.1.2	✓
Gas turbine engines with maximum heat input rating of 3 MMBtu/hr or less.	5.1.3	
Space heating equipment other than boilers.	5.1.4	✓
Locomotives, airplanes, and watercraft used to transport passengers or freight.	5.2	
Cooling towers with a circulation rate less than 10,000 gal/min.	5.3	✓
Equipment at retail establishments used to prepare food for human consumption.	5.5.1	
Ovens at bakeries with total daily production less than 1,000 pounds and exempt by Section 5.1.1.	5.5.2	
Equipment used exclusively for extruding or compression molding of rubber or plastics, where no plasticizer or blowing agent is used.	5.6	
Containers used to store clean produced water.	5.7.1	✓
Containers ≤100 bbl used to store oil with specific gravity ≥ 0.8762.	5.7.2	✓
Containers ≤ 100 bbl installed prior to 6/1/89 used to store oil with specific gravity ≥ 0.8762.	5.7.3	✓
Brazing, soldering, or welding equipment.	5.10.1	✓
Fugitive emissions sources associated with exempt equipment.	5.10.3	✓
Equipment used to compress natural gas.	5.10.2	✓
Containers with a capacity ≤ 250 gallons used to store organic material where the actual storage temperature < 50 F.	5.7.4	✓
Containers used to store unheated organic material with an initial boiling point ≥ 302 F.	5.7.5	✓
Containers used to store fuel oils or non-air-blown asphalt with specific gravity ≥ .9042.	5.7.6	✓
Containers used to store petroleum distillates used as motor fuel with specific gravity ≥ 0.8251.	5.7.7	✓
Containers used to store refined lubricating oils.	5.7.8	✓

Exemption Category	Rule 2020 Citation	
Unvented pressure vessels used exclusively to store liquefied gases or associated with exempt equipment.	5.7.9 or 5.10.4	✓
Portable tanks used exclusively to store produced fluids for ≤ six months.	5.7.10	✓
Mobile transport tanks on vehicles for delivery of VOCs.	5.7.11	✓
Loading racks used for the transfer of less than 4,000 gal/day of unheated organic material with initial boiling point ≥ 302 F or of fuel oil with specific gravity ≥ 0.8251.	5.8.1.1	✓
Loading racks used for the transfer of asphalt, crude or residual oil stored in exempt tanks, or crude oil with specific gravity ≥ 0.8762.	5.8.1.2	✓
Equipment used to apply architectural coatings.	5.9.1	✓
Equipment used exclusively for the transfer of refined lubricating oil.	5.8.2	✓
Unheated, non-conveyorized degreasers < 10 ft^2 open area; using solvents with initial boiling point ≥ 248 F; and < 25 gal/yr evaporative losses.	5.9.2	✓
Pits and Ponds as defined in Rule 1020.	5.10.6	
Non-structural repairs & maintenance to permitted equipment.	4.2.6	✓
Emissions less than 2 lb/day from units not included above.	4.2.1	✓

ATTACHMENT C - O_2/CO_2 EXHAUST CONCENTRATIONS

NATURAL GAS

Maximum PM emissions will occur at 0% O_2 in the exhaust stream and District Rule 4301 requires a 12% CO2 correction. For natural gas firing units, 0% O_2 occurs at 12% CO_2. This is demonstrated by the following combustion equation for natural gas (wherein X denotes moles of excess air and (neglecting sulfur).

$$CH_4 + (2+X)O_2 + (2+X)(3.78)N_2 \rightarrow CO_2 + 2\ H_2O + XO_2 + (2+X)(3.78)N_2$$

Solving an expression for the fraction of O_2 in the exhaust by volume, wherein the numerator represents the number of moles of CO_2 and the denominator represents the total number of moles of dry exhaust, set equal to 12% CO_2 yields the number of moles of excess air (X).

$$\frac{1}{1+X+(2+X)3.78} = 0.12 \Rightarrow X = 0.05$$

Substituting the coefficients and solving the resultant equation for the fraction of O_2 verifies that 12% CO_2 is equivalent 0% O_2:

$$CH_4 + 2.05O_2 + 7.75N_2 \rightarrow CO_2 + 2\ H_2O + 0.05O_2 + 7.75N_2$$

$$\frac{0.05}{1+0.05+7.75} = 0.0057 \approx 0\%$$

FUEL OIL

For units burning fuel oil the following combustion equation, wherein X denotes moles of excess air, reveals that 12% CO_2 in the exhaust stream occurs at 4% O_2. Consequently, the compliance of units firing on fuel oil is shown using AP42 F factors uncorrected from 0% O_2 to illustrate the worst case scenario.

$$C_{14}H_{30} + (21.5+X)O_2 + (21.5+X)(3.78)N_2 \rightarrow 14CO_2 + 15\ H_2O + XO_2 + (21.5+X)(3.78)N_2$$

Solving an expression for the fraction of O_2 in the exhaust by volume, wherein the numerator represents the number of moles of CO_2 and the denominator represents the total number of moles of dry exhaust, set equal to 12% CO_2 yields the number of moles of excess air (X).

$$\frac{14}{14+X+(21.5+X)3.78} = 0.12 \Rightarrow X = 4.5$$

Substituting the coefficients and solving the resultant equation for the fraction of O_2 in the exhaust verifies that 12% CO_2 is equivalent 4% O_2:

$$C_{14}H_{30} + 25O_2 + 94.5N_2 \rightarrow 14CO_2 + 15H_2O + 4.5O_2 + 94.5N_2$$

$$\frac{4.5}{14 + 4.5 + 94.5} = 0.039 \approx 4\%$$

ATTACHMENT D - SULFUR/SULFUR DIOXIDE CONVERSION

The following analysis shows the reasoning behind the mass increase in converting sulfur to sulfur dioxide (SO_2). The chemical equation for converting sulfur into sulfur dioxide is:

$S + O_2 \rightarrow SO_2$

The preceding equation shows that 1 mole of sulfur combined with 1 mole of oxygen will create 1 mole of sulfur dioxide. The molecular weight of sulfur (S) is 32.06 grams/mole. The molecular weight of oxygen (O_2) is 32.0 grams/mole. Thus, when the mole of sulfur is combined with the mole of oxygen, the resulting mole of sulfur dioxide has a mass of 64.06 grams/mole.

The preceding analysis shows that when sulfur is calculated as sulfur dioxide, the resulting mass of sulfur dioxide is twice the mass of initial sulfur converted.

ATTACHMENT E - Gas Sulfur Content Standards

GENERAL ORDER 58-B
(Supplemental to General Order 58-A)

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

HEATING VALUE MEASUREMENT STANDARD FOR GASEOUS FUELS

Approved October 17, 1984. Effective November 16, 1984.
(Decision 84-10-052, CII 83-11-01)

Original Order Approved December 28, 1955--Effective January 17, 1956

It is ORDERED that the following rules be adopted effective November 16, 1984 to govern all gas corporations as defined in the Public Utilities Code,* in the determination of heating values of fuel gases. The order also is supplemental to General Order 58-A, which requires utilities to provide and maintain heating value measurement stations and shall not relieve any gas corporation from complying with the provisions of general Order 58-A.

7. Purity of Gas

A. **Hydrogen Sulfide**

No gas supplied by any gas utility for domestic, commercial or industrial purposes in this state shall contain more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet.

B. **Total Sulfur**

No gas supplied by any gas utility for domestic, commercial or industrial purposes shall contain more that five (5) grains of total sulfur per one hundred (100) standard cubic feet.

C. Test procedures used to determine the amounts of hydrogen sulfide and total sulfur shall be in accordance with accepted gas industry standards and practices.

D. When hydrogen sulfide, or total sulfur, exceeds the limits set forth in Section 7.a. and Section 7.b., the gas utility shall notify the Commission and commence remedial action immediately. The Commission shall be notified when the level of hydrogen sulfide, or total sulfur, has been reduced to allowable limits.

$$\%S\left(lb\ S \big/ lb\ CH_4\right) = \left(\frac{5\,gr}{100\,scf}\right)\left(\frac{1\,lb}{7000\,gr}\right)\left(\frac{24.45\,L}{mol\,CH_4}\right)\left(\frac{mol\,CH_4}{16\,g}\right)\left(\frac{454\,g}{1\,lb}\right)\left(\frac{0.035\,scf}{L}\right)(100) = 0.017\%\ sulfur$$

FERC Gas Contract

ARTICLE 14 - QUALITY OF GAS

14. QUALITY

14.1 Gas Quality at Delivery Point(s): The Gas delivered by Transporter for Shipper at the Delivery Point(s):

(a) shall be merchantable Natural Gas commercially free from objectionable odors, solid matter, dust, gums, and gum forming constituents, or any other substance which interferes with its intended purpose, or causes interference with the proper and safe operation of the lines, meters, regulators, or other appliances through which it may flow;

(b) shall contain not more than seven (7) pounds/MMcf of water;

(c) shall contain no hydrocarbons in liquid form at the temperature and pressure at which the Gas is delivered at the Delivery Point;

(d) shall not exceed a hydrocarbon dew point of fifteen degrees (15°) Fahrenheit at pressures up to 800 psig;

(e) shall contain not more that 0.2% by volume of oxygen;

(f) shall contain not more than 3.0% by volume of carbon dioxide or nitrogen;

(g) shall contain not more than a combined total of 4.0% by volume of inerts, including carbon dioxide, nitrogen, oxygen and any other inert compound;

(h) shall contain not more that 0.25 grain of hydrogen sulfide per 100 Cubic Feet of Gas (the gas shall not contain any entrained hydrogen sulfide treatment chemical (solvent) or its by-products);

(i) shall contain not more that 0.3 grains of mercaptan sulfur per 100 Cubic Feet of Gas;

(j) shall contain not more that 0.75 grains of total sulfur per 100 Cubic Feet of Gas;

(k) shall not contain any toxic or hazardous substance, in concentrations which, in the normal use of the Gas, results in an unacceptable risk to health, is injurious to pipeline facilities, is a limit to merchantability or contrary to applicable governmental standards;

(l) shall have a minimum total heating value of not less than nine hundred seventy (970) Btu's per Cubic Foot of Gas on a dry basis;

(m) shall have a temperature of not less than forty degrees (40°) Fahrenheit, and not more than one hundred twenty degrees (120°) Fahrenheit.

$$\%S\left(\frac{lbS}{lbCH_4}\right)=\left(\frac{0.75gr}{100scf}\right)\left(\frac{1lb}{7000gr}\right)\left(\frac{24.45L}{molCH_4}\right)\left(\frac{molCH_4}{16g}\right)\left(\frac{454g}{1lb}\right)\left(\frac{0.035scf}{L}\right)(100)=0.0026\%sulfur$$

ATTACHMENT F - CURRENT PTOs

ATTACHMENT G – EPA Comments / District Responses

The following EPA comments were received regarding the proposed Title V Operating Permit for both **Equilon (S-33) and (S-34)**. These comments apply to both facilities and the relevant comments to S-34 are encapsulated below followed by the District's response. A copy of the EPA October 24, 2002, comment letter is available at the District.

1. ***EPA COMMENT***
   EPA recommends that the District include specific HAP emissions information in the engineering evaluation demonstrating that Equilon Refining LLC (S-34) is not considered a major HAPs source, as defined in 40 CFR 63, subject to petroleum refinery MACT standard.
   DISTRICT RESPONSE
   The District has previously determined that the facility Hazardous Air Pollutant emissions are below the major source threshold of HAPs, and therefore, is not subject to the Petroleum Refinery MACT Standard of 40 CFR 63. The engineering evaluation for Equilon S-34 contains a discussion of applicability to Rule 4002. The HAP emissions for this facility are below 10 tpy of any one HAP and 25 tpy of total HAPs. The detailed list of HAP emissions will be included on the following page.

2. ***EPA COMMENT***
   Several of the fixed roof tank unit permits contain a requirement which states that "emissions from components which have been tagged by the facility operator for require within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit." The permit condition cites District Rule 2520.9.3.2. However, nothing in District Rule 2520 or 4623 relieves the source of being in violation when a leaking component has been tagged or is waiting re-inspection. EPA recommends that this permit condition be removed from the fixed roof tank permit.
   DISTRICT RESPONSE
   The District removed this condition as requested by both EPA and the facility.

3. ***EPA COMMENT***
   Title V permits must contain a compliance schedule for all requirements for which the facility is not currently in compliance. See Rule 2520, 9.14-15 and 40 CFR Parts 70.6(c)(3) and 70.5(c)(8)(iii)(A), (B), and (C). The District did not include in the engineering evaluation/statement of basis either an evaluation of [Equilon's] compliance status or any compliance schedule(s) as required by District Rule 2520 and 40 CFR Part 70.
   DISTRICT RESPONSE
   The engineering evaluation demonstrates that the facility is in compliance with all the applicable requirements. Compliance schedule shall not be required.

ATTACHMENT H – Public Comments / District Responses

PUBLIC COMMENTS

Public comments regarding the District's analysis and preliminary decision were submitted by Our Children's Earth. A copy of the October 9, 2002 OCE letter containing the comments is available at the District.

Equilon Enterprises (S-34); Kern Oil and Refining (S-37); Tricor Refining, LLC (S-44), AERA Energy, (S-1547) Comments

I. General Permit Template Usage–Tricor Refinery, Kern Oil, and Aera Energy

OCE Comment: *Facility-Wide Umbrella General Permit Templates*

The District states that for permit applications utilizing the model general permit templates, public and agency comments on the District's proposed actions are limited to, inter alia, the applicant's eligibility for the model general permit template. In regards to the applicants' eligibility for the model general permit template, the District merely states "[b]ased on the information submitted in the Template Qualification Form, the applicant qualifies for the use of this template." See Proposed Engineering Evaluation. The District failed to include a statement of basis discussing the factual data on which the District based its decision to grant Tricor Refinery's, Kern Oil's, and Aera Energy's use of the general permit template. In addition, the District failed to include a summary of the methodology used in obtaining the data and in analyzing the data submitted to the District in the named facilities' applications. These three draft permits leave the public and regulators in the dark as to why "the applicant[s] qualif[y] for the use of th[e] [general permit] template." Id.

District Response: As we noted in the application review, which acts as the statement of legal and factual basis for the proposed permit, the decision to grant Tricor Refinery's, Kern Oil's, and Aera Energy's use of the general permit template was based on the analysis provided in the template qualification form. The qualification form, which was subject to EPA and public review at the time the template was issued, defines the specific circumstances under which facilities are allowed to use the template, a step-by-step demonstration of qualification, and does not leave regulators or the public "in the dark" as you suggest.

II. Facility-Wide Requirements–Mckittrick's, Chalk Cliff's, Chemical Waste Management's, Equilon Enterprises's, and Castle Peak's Draft Title V Permits

OCE Comment #1: *Insufficient Emergency Provisions.*

Facility-Wide Requirement 1, under Equilons, Chalk Cliffs, Chemical Waste Management, and Castle Peak's draft permits, link the term "breakdown" to the definitions provided in District Rule 1100. However, the definition of "breakdown" in

Rule 1100 is significantly different from the federal definition of a breakdown, which is provided in the U.S. Environmental Protection Agency's (EPA's) regulation for State Operating Permit Programs (40 CFR Part 70). In 40 CFR 70.6(g), EPA clearly defines emergencies as arising from, "sudden and reasonably unforeseeable events...which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation..." The District's definition does not contain this language and therefore does not fulfill the requirements of the Clean Air Act (CAA). Regarding emergency provisions, we believe that the language of the Title V Draft Permit should follow the language provided in the federal regulation very closely, if not word-for-word.

District Response: Section 13.4.2 of Rule 2520 states that provisions of District Rule 1100 (Breakdowns) apply in addition to the provisions of that section. The purpose of facility wide requirement 1 is to assure compliance with the requirements of District Rule 1100 and to compel prompt reporting. This reporting, however, does not grant facilities an affirmative defense unless the provisions listed under Section 13.4.1 which are identical to those listed under 40 CFR 70.6(g). Facility wide requirement 1 assures compliance with District Rule 1100 without contradicting federal requirements. Therefore, the breakdown provisions of the proposed permit are consistent with the requirements of the District's approved Title V program and are not insufficient.

OCE Comment #2: *Insufficient Monitoring/Reporting Requirements.*

Facility-Wide Requirement 10 in Equilon Enterprise's, Tricor's, Aera Energy's, and Kern Oil's Draft Permits, states that the operator shall submit reports of any required monitoring at least every six months. The Draft Permits should be absolutely clear about what monitoring requirements must be covered in the 6 month monitoring reports. Facility-Wide Requirement 10 is not sufficiently clear.

We suggest the following language: "The source is required to comply with the following monitoring requirements and include such reports in the six month monitoring reports." Such language is necessary to ensure that the District, U.S. EPA, permit holder and the public are aware of the monitoring and reporting requirements in the permit. This language would then need to be followed by a precise list if the applicable monitoring and reporting requirements.

Finally, in Tricor's and Aera Energy's draft Title V permits, the District incorrectly cites District Rule 2520, 9.6.1 as the applicable rule requiring 6 month monitoring reports. Instead, District Rule 2520, 9.5.1 is the proper rule.

District Response: All applicable monitoring requirements are already included in the proposed permit an can be readily identified by reviewing the conditions for each permit

unit, so monitoring and reporting requirements are not insufficient. The "precise list" of monitoring requirements that you recommend we add to condition 10 would be redundant.

The section numbers in the draft permit were based on a previous version of District Rule 2520. The numbers will be updated to reflect the current version at the time of final action.

OCE Comment #3: Lack of "Practically Enforceable" Conditions in Equilon Enterprise's, Tricor's, Aera Energy's, and Kern Oil's Draft Permits.

According to the CAA, conditions in a Title V permit must be "practically enforceable." Therefore a permit requirement must make it possible to determine whether the facility is complying with the condition. Specifically, all Title V permits are legally required to incorporate all applicable record keeping requirements, and, where applicable, records of required monitoring must include the following:

1) The date, time, and place of sampling or measurements;
2) The dates analyses were performed;
3) The company or entity that performed the analyses;
4) The analytical techniques or methods used;
5) The results of such analyses; and
6) The operating conditions existing at the time of sampling or measurement.

40 CFR 70.6(a)(3)(ii)(A); District Rule 2520, 9.4.1. Reports of all required monitoring must be submitted at least every six months. Reports are required to identify all instances of deviations from permit requirements and must be certified by a responsible official. See 40 CFR 70.6(a)(3)(iii)(A); District Rule 9.13.1 and 10.0. Facility-Wide Requirements 23-25, 27-34, and 29-34 under Equilon Enterprise's, Tricor's, Kern Oil's, and Aera's Draft Permit[s] do not include any monitoring and reporting requirements to determine whether the facility is in compliance with Facility-Wide Requirements 23-25, 27-34, and 44-45. Thus, Facility-Wide Requirements 23-25, 27-34, and 44-45 are not "practically enforceable" because there is no way to determine whether the facility is in compliance with those conditions.

District Response: Facility-wide conditions 23-27 and 29-34 include general requirements (e.g., labeling requirements for any containers used for architectural coatings) that may apply to certain insignificant activities that could occur at the facility (e.g., a temporary architectural coating operation exempt from permitting requirements under Section 6.8.1 of District Rule 2020). These types of operations that are exempt from permitting were designated in the District's approved Title V program as insignificant These requirements are practically enforceable in the permit as written. The source is still required to report deviations from these requirements under Facility wide condition 11, and to certify compliance with each of these requirements annually under condition 35. The annual certification must include the identification of the permit

term, the compliance status, the method the source operator used to determine the compliance status, and any other facts required by the district to determine the compliance status. Also, if a violation were observed during an EPA or District inspection (e.g., an uncovered can of house paint was found at the facility), enforcement action could still be taken. However, permit modifications/additions will be required if the facility were to begin conducting these activities in a manner or at a level that required a permit (a level not exempt under Rule 2020). Specific monitoring requirements would be added at the time the operation was permitted.

***OCE Comment #4**: Legal Insufficiency of the Schedule of Compliance Section.*

A Title V permit must "assure compliance" with all applicable requirements. See 40 CFR § 70.1(b). Specifically, 40 CFR § 70.7(a)(1)(iv) provides that a permit may only be issued if "the conditions of the permit provide for compliance with all applicable requirements." The proposed refinery permits subject to these comments do not assure compliance. In particular, the status of the proposed Title V facilities' current compliance and future ability to comply with all applicable requirements is unclear.

All Title V permits are legally required to contain a compliance schedule as follows: 1) for applicable requirements with which the source is in compliance, a statement that the source will continue to comply with such requirements; 2) for applicable future requirements that will become effective during the permit term, a statement that the source will comply with such requirements on a timely basis; 3) a schedule of compliance for sources that are not in compliance with all applicable requirements at the time of permit issuance, including a schedule of remedial measures with an enforcement sequence of actions leading to compliance. 40 CFR 70.6(c)(3); and 70.5(c)(8)(iii)(A), (B), and (C); District Rule 2520, 9.8.1[9], 9.13.1, and 9.14. In addition to the schedule of compliance, all Title V permits are required to contain a statement of compliance. District Rule 2520, 10.0.

The schedule of compliance section, in the relevant part, reads as follows:

> *The permittee must comply with all conditions of the permit including permit revisions originated by the District.....*

This statement is legally insufficient. The specific contents of a compliance schedule are determined by the status of a source's compliance at the time the permit is issued. For example, if a source is currently in compliance, the compliance schedule must state that the source will "continue to comply." If there are future requirements, the schedule must state that the source must comply with them on a timely basis. If the source is not

[9]Note: The District has again incorrectly cited District Rule 2520, 9.9.1 under condition 5 in Tricor's and Aera Energy's draft Title V permits. The correct District Rule is Rule 2520, 9.8.1.

in compliance, the schedule should include a plan for the source to come into compliance.

The schedule of compliance section presented in the proposed permits, identified above, does not indicate the sources' current status of compliance, nor is a statement of compliance presented elsewhere in the facilities' permits. The schedule also lacks the following components: 1) a statement that the sources will "continue to comply," 2) whether there are future requirements that will become effective during a specific permit's term, 3) language that the source must comply with future requirements "on a timely basis," should the source be out of compliance, 4) a schedule of remedial measures and actions the source must take to come into compliance. These above omissions are inconsistent with federal law and District regulations.

One of the purposes of the Title V permitting program was to enable the public, sources, the state, and EPA to better understand a source's requirements under its permit and whether the source is meeting those requirements. Operating Permit Program, 57 Fed.Reg. 32,295 (1992). The District's failure to include the legally required information in the schedules of compliance defeats this purpose, and strips the schedules of their practical use.

In fact, the above language used in each of the proposed permits is a blanket statement that the District used for all of its Title V permits. As stated, such a blanket statement is legally insufficient and of no practical use.

The reader should not be required to infer that a source is in compliance simply by the District's omission of contrary language. In fact, in some instances such an inference may be incorrect.

District Response: In accordance with section 9.14 of District Rule 2520, a compliance schedule is required "for sources in violation of any applicable requirement". This source certified compliance with the applicable requirements in their initial application, and compliance with each applicable requirement was demonstrated in the Compliance section of the application review. Therefore, a compliance schedule was not required for this permit.

In addition to a compliance schedule "for sources in violation of any applicable requirement", section 9.14 of Rule 2520 also requires a statement that the sources will continue to comply. This is addressed in condition 5, which requires that the permittee comply with all conditions of the permit including any revisions originated by the District. Because applicable requirements with future effectiveness dates are included as permit terms, the permit also assures that the permittee will comply with requirements with future effectiveness dates, as required by Section 9.14.3 of Rule 2520. Therefore, the condition is legally sufficient to satisfy the requirements of Section 9.14 of Rule 2520.

OCE Comment #III.: *Failure to Include a sufficient Statement of Basis with the Draft Permit. The limited information provided in the Permit Application Review is inadequate–Equilon Enterprise's, Kern Oil's, Tricor's, and Aera Energy's Draft Title V*

Permits

According to 40 CFR § 70.7(a)(5), the District must provide a statement that sets forth the legal and factual basis for the draft permit conditions, including references to the applicable statutory and regulatory provisions. While this regulation is ambiguous as to whether the Statement of Basis must be included as part of the Draft Permit, we believe that it should be.

As you know, the purpose of the Statement of Basis is to provide an explanation of why the permit contains the provisions it does and why it does not contain other provisions that might otherwise be applicable. In other words, the Statement should set out the factual context for the Permit requirements. Along with the Permit Application, it provides a "background" for both decisions made by the District as well as efforts at meaningful public review. Without the Statement of Basis, effective public review is hindered. It makes sense that the District would incorporate the full Statement of Basis into Draft Permit so as to facilitate public review. Maintaining the Statement of Basis as a separate document, kept at the District Office makes one more document for interested parties to request. The practice of not incorporating the District's analysis of the legal and factual basis for Permit actions into the Draft Permit itself implies to interested parties that all the information needed to effectively review or consult a Permit is contained within the Permit itself. This is simply not so.

As written, the Draft Permits contain little in the way of factual information about any of the facilities' operations. The Permit Application Review references Attachments (the Detailed Facility Printouts) for a list of permitted equipment. The lists are of limited usefulness as tools for the public to comprehend the facilities' operations. The Detailed Facility Printout simply gives a very brief description of particular pieces of equipment. They do not list the emissions that come from that particular piece of equipment and leaves the non-expert public in the position of guessing as to even the most general functional aspects of a facility's operation. With the information as offered in the Detailed Facility Printouts, the interested public cannot be expected to adequately understand what type of facility is being permitted, what type of equipment is being used and for what processes, and what emissions are resulting. We believe the District should incorporate into its Statement of Basis, a much more lucid explanation of the facility, its emissions sources and abatement equipment, and its overall operational/manufacturing processes.

While descriptions of the facility and its process are contained in the permit application, they should be incorporated into the Draft Permit, as part of the Statement of Basis, not a mere list, included as an attachment. By including the legal and factual basis along the District's Draft Permits (including a detailed description of the facility, its emissions sources and abatement equipment, and its operational process), the Draft Permits move closer to becoming clear, comprehensive and informative documents. Such

comprehensive Draft Permits will allow interested parties to effectively review what type of facility is being permitted, the applicable requirements and the reasons for those requirements upon which comments can be based.

District Response: Each draft permit condition also includes a rule reference that identifies the underlying rule or regulation for each condition and a comprehensive equipment description is included in the permit for each permit unit. (e.g., EMERGENCY FIRE WATER PUMP POWERED BY 244 HP CUMMINS DIESEL-FIRED INTERNAL COMBUSTION ENGINE EQUIPPED WITH TURBOCHARGER, INTERCOOLER AND POSITIVE CRANKCASE VENTILATION). The application review further describes what type of facility is being permitted, the applicable requirements including a specific description of how compliance with each applicable requirement is assured in the permit, and the reasons for those requirements upon which comments can be based.

The federal Title V regulations in 40 CFR part 70.6, which are very prescriptive with regards to permit content, do not include provisions for including the statement of basis in the draft permit as you recommend. Including the full statement of basis in the Title V permit would unnecessarily make the permit more complex and less understandable. The application review, which acts as a statement of basis, is provided to the public free of charge upon request along with the draft permit, so there is no reason for incorporating the application review into the draft V permit.

Other more detailed information about the facility that the applicant is required to provide as part of a Title V permit application package (emissions, certifications, etc.) is also available upon request

OCE Comment #IV.: *Draft Permits refer to incorrect Facility-Wide Requirements*

Throughout the Facility-Wide Requirements (Requirement(s)) in the draft Title V permits that the District proposes to issue to the facilities subject to these comments, the District cites incorrect applicable rules. For example:

In Tricor's and Aera Energy's draft permits, Facility-Wide Requirement 10 denotes the requirements regarding the frequency of monitoring reports. San Joaquin Valley APCD District Rule 2520, 9.6.1 is referenced as the corresponding District Rule. District Rule 2520, 9.6.1explains that emissions authorized by allowances under the acid rain program are excepted from this requirement. The proper corresponding District Rule is 2520, 9.5.1.

In Tricor's and Aera Energy's draft permits, Facility-Wide Requirement 11 provides details for the prompt reporting of deviations from the permit conditions. San Joaquin Valley APCD District Rule 2520, 9.6.2 is referenced as the corresponding District Rule. District Rule 2520, 9.6.2 addresses the proper use of allowances under the acid rain program. The proper corresponding District Rule is 2520, 9.5.2.

In Tricor's and Aera Energy's draft permits, Facility-Wide Requirement 12 is the Permit's severability clause. San Joaquin Valley APCD District Rule 2520, 9.8 is referenced as the corresponding District Rule. District Rule 2520, 9.7 is the proper corresponding as it lists the severability clause one of the necessary Permit requirements.

In Tricor's and Aera Energy's draft permits, Facility-Wide Requirement 16 provides requirements for the furnishing of information to the District necessary for the District's consideration of possible modification, revocation, reissuance or termination of a permit. San Joaquin Valley APCD District Rule 2520, 9.9.5 is referenced as the corresponding District Rule. District Rule 2520, 9.8.5 is the proper corresponding District Rule, as it denotes the same requirements.

In Tricor's and Aera Energy's draft permits, Facility-Wide Requirements 18, 19, 20, and 21 set out the District's inspection authority. San Joaquin Valley APCD District Rule 2520, 9.14.2.1, 9.14.2.2, 9.14.2.3. and 9.14.2.4, respectively are cited as the District's authority. However, the proper citation to the District's inspection authority is found at District Rule 2520, 9.13.2.1, 9.13.2.2, 9.13.2.3, and 9.13.2.4, respectively.

In Tricor's and Aera Energy's draft permits, Facility-Wide Requirement 28 sets out each facilities' responsibility to certify documents submitted to the District. The District incorrectly cites District 2520, 9.14.1. The proper District Rule is Rule 2520, 9.13.1 and 10.0.

In Tricor's and Aera Energy's draft permits, Facility-Wide Requirement 35 lists the requirements needed in a certification of compliance. San Joaquin Valley APCD District Rule 2520, 9.17, which mandates that general permit templates, if used, shall be used without modification, is referenced as the corresponding District Rule. District Rule 2520, 9.16 is the proper corresponding District Rule, as it denotes the requirements of certifications of compliance.

District Response: The section numbers in the draft permit were based on a previous version of District Rule 2520. The numbers will be updated to reflect the current version at the time of final action.

OCE Comment #V.: *Permit Unit Requirements contain Insufficient Monitoring, Record Keeping, and Reporting Requirements.*

As stated above, according to the CAA, conditions in a Title V permit must be "practically enforceable." Therefore a permit requirement must make it possible to determine whether the facility is complying with the condition. Specifically, all Title V permits are legally required to incorporate all applicable record keeping requirements, and, where applicable, records of required monitoring must include the following:

1) The date, time, and place of sampling or measurements;
2) The dates analyses were performed;
3) The company or entity that performed the analyses;
4) The analytical techniques or methods used;
5) The results of such analyses; and
6) The operating conditions existing at the time of sampling or measurement.

40 CFR 70.6(a)(3)(ii)(A); District Rule 2520, 9.4.1. Reports of all required monitoring must be submitted at least every six months. Reports are required to identify all instances of deviations from permit requirements and must be certified by a responsible official. See 40 CFR 70.6(a)(3)(iii)(A); District Rule 9.13.1 and 10.0. Thus, the Permit Unit are not "practically enforceable" because there is no way to determine whether the facility is in compliance with those conditions. Examples of the District's failure to include "practically enforceable" Permit Unit Requirements are provided below.

One example is found in Kern Oil's Draft Permit. IN Kern Oil's Draft Permit–in particular, S-37-1-3 Permit Unit Requirement 5, 6, and 7 state merely that compliance with these requirements are demonstrated by firing the unit only on PUC or FERC regulated natural gas. The District offers no explanation of why there are no included monitoring requirements. The District Rules cited (District Rules 2520, subpart 9.3.2 and 4310, subparts 5.1 and 5.23) do not mention that monitoring requirements are met merely by firing the unit on PUC or FERC regulated natural gas.

As stated above, permits must contain "conditions as are necessary to assure compliance." This core requirement is augmented by 40 CFR § 70.6(a)(3), requiring "monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance", and 40 CFR § 70.6(c)(1) requiring Title V permits to contain "testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit." If utilizing only PUC or FERC regulated natural gas will inherently yield emissions that meet applicable requirements, the Draft Permit should explicitly explain why this is so. As written, it is not obvious that using only PUC or FERC regulated natural gas will assure compliance with the terms and conditions of the permit and District Rules. Indeed, the basis behind the permit condition should be written so that the public can understand it.
This comment is applicable to any other Permit Unit Requirement for any other

equipment unit that specifies the use of "only PUC or FERC regulated natural gas" as adequate to demonstrate compliance.

Other examples of the District's failure to include "practically enforceable" regulations are also found throughout all of the District's proposed permits. For example, in Kern Oil's Draft permit, specifically, S-37-1-3 Permit Unit Requirement 2 lists a variety of documentation that must be maintained by the operator. Requirement 3 mandates that operator maintain "all records of required monitoring data and support information" for five years. Requirement 3 does not explain if the listed documents included in Requirement 2 fall under the description of "required monitoring data and support information". If the "copies of fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance" referred to in Requirement 2 are indeed in the category of "all records of required monitoring data and support information", then for clarity's sake, the two Requirements should be combined. As they are written, the Requirements are ambiguous as to what exact records must be kept for a period of 5 years.

Furthermore, Permit Unit Requirement 2 requires the operator to record daily the amount and type(s) of fuels(s) combusted and all dates on which a unit is fired on any non-certified fuel. Going back to Permit Unit Requirement 5, 6, and 7, which state that compliance is determined by firing the units on PUC or FERC regulated natural gas, the permit reader is left wondering if firing a unit on "non-certified fuel" is the same thing as firing a unit on non-PUC or non-FERC regulated natural gas. If firing a unit on "non-certified fuel" is contrary to the necessity to fire the unit on PUC or FERC regulated natural gas in order to prove compliance with the sulfur compound emissions limitations, then Permit Unit Requirement 2 is essentially asking the operator to record the dates operator was out of compliance with sulfur compound emissions limitations. This demonstrates the problem with having compliance with sulfur compound emissions limitations turning on the type of fuel burned rather than requiring operator to perform straight forward monitoring and testing. If OCE's interpretation of these requirements is correct, does the District monitor the Requirement 2 records which requires the operator to record daily the amount and type(s) of fuels(s) combusted and all dates on which a unit is fired on any non-certified fuel to discover incidents of noncompliance with sulfur compound emissions limitations?

To remediate to problems addressed above, we suggest the following language: "The source is required to comply with the following monitoring requirements and include such reports in the six month monitoring reports." Such language is necessary to ensure that the District, U.S. EPA, permit holder and the public are aware of the monitoring and reporting requirements in the permit. This language would then need to be followed by a precise list if the applicable monitoring and reporting requirements.

District Response: The basis for using PUC and FERC regulated gas to assure compliance with sulfur limits in applicable requirements is given on pages 75 and 76 of the application review (not in the permit as you suggest). The analysis shows that natural gas with a sulfur content of 3.3% or less will meet the limits in District Rule 4801

and Kern County rule 407. The application review then goes on to say that “The use of PUC or FERC regulated gas with a maximum sulfur content of .017% will assure compliance with this requirement”, which it clearly does since the use PUC gas will keep emissions below the rule limits by a factor of 194. Attachment E to the evaluation includes PUC and FERC gas specifications. The application review then goes on to specify additional periodic monitoring requirements pursuant to Rule 2520, for non-certified (not PUC or FERC regulated) gas.

In your comments, you note that Condition 2 of S-37-1 includes specific recordkeeping requirements, while condition 3 requires “all records of required monitoring data and support information.” These conditions are consistent with District rule 2520 Section 9.4, which requires that the permit include requirements to maintain records as required by any applicable requirement (40 CFR 60.48c(g) in this case), and all records of required monitoring data and support information. Although there is some overlap between these two conditions, including both these conditions assures that all recordkeeping requirements are addressed in the permit.

We disagree with your assertion that including periodic testing is superior to specifying a fuel that will assure compliance. We believe that allowing the source to show compliance with sulfur limitations by using PUC regulated gas (a certified fuel), which results in emissions lower than the District Rule 4801 limit by a factor of at least 194, is an excellent way to assure compliance with the Rule 4801 limit, and in conjuction with recordkeeping requirements included in the permit, it is not only practically enforceable but it is readily enforceable at all times during the permit term.

In answer to your question, “does the District monitor the Requirement 2 records which requires the operator to record daily the amount and type(s) of fuels(s) combusted and all dates on which a unit is fired on any non-certified fuel to discover incidents of noncompliance with sulfur compound emissions limitations?”—the answer is yes. Facility records are routinely reviewed to evaluate compliance during District compliance inspections.

All applicable monitoring requirements are already included in the proposed permit and can be readily identified by reviewing the conditions for each permit unit, so the “precise list” of monitoring requirements that you recommend we include in the reporting condition would be redundant.